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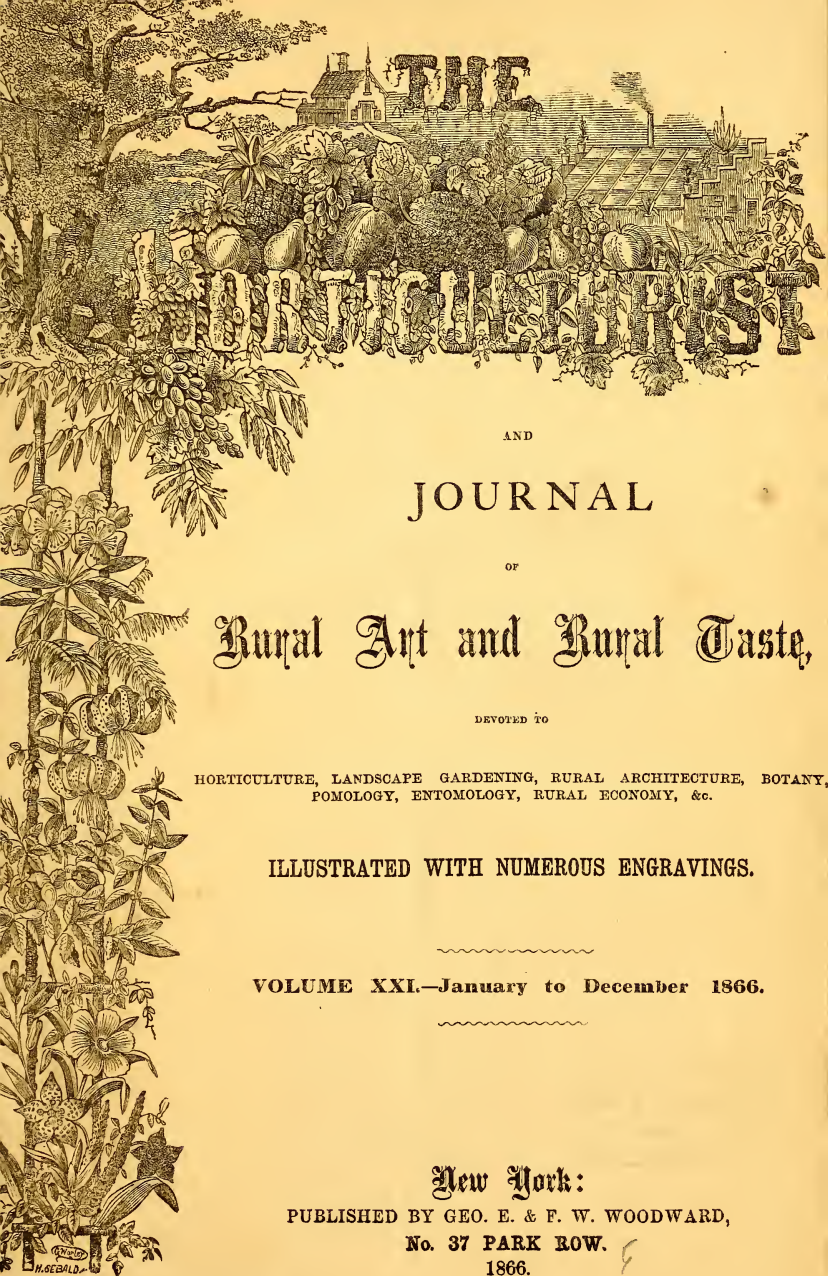
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AND
JOURNAL
OF
Rural Art and Rural Taste,

DEVOTED TO

HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE, BOTANY,
POMOLOGY, ENTOMOLOGY, RURAL ECONOMY, &c.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS.

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THE HORTICULTURIST.

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ON NOT DOING ALL AT ONCE.

THERE are a great many ardently progressive people who will be shocked by the caption under which I write. The current American theory is, that if a thing needs to be done, it should be done at once,—with rail-road speed, no matter whether it regards politics, morals, religion, or horticulture. And I wantonly take the risk of being condemned for an arrant conservative, when I express my belief that there are a great many good objects in life which are accomplished better by gradual progression toward them than by sudden seizure. I shall not stay to argue the point with respect to negro suffrage, or female suffrage, or a temperance reformation, or the clearing-out of Maximilian's Mexican Imperialism,—which are a little removed from the horticultural arena, where our humbler questions are discussed,—but I shall urge a graduation and culmination of triumphs in what relates to rural life and its charms.

One meets, from time to time, with a gentleman from the city, smitten with a sudden rural fancy, who is in eager search

for a place “made to his hand,” with the walks all laid down, the entrance-ways established, the dwarf trees regularly planted, the conservatory a-steam, and the crocheted turrets fretting the sky-line of the suburban villa. But I never heard of any such seeker after perfected beauties who was an enthusiast in country pursuits, or who did not speedily grow weary of his phantasy. He may take a pride in his cheap bargain; he may regale himself with the fruits and enjoy the vistas of his arbor; but he has none of that exquisitely-wrought satisfaction which belongs to the man who has planted his own trees, who has laid down his own walks, and who has seen, year after year, successive features of beauty in shrub, or flower, or pathway, mature under his ministering hand, and lend their attractions to the cumulating charms of his home. The man of capital, who buys into an established business, where the system is perfected, the trade regular and constant, the details unvaried, may very possibly congratulate himself upon the security

of his gains; but he knows nothing of that ardent and intoxicating enthrallment which belongs to one who has grown up with the business—suggested its enterprises—shared its anxieties, and by thought, and struggle, and adventure, made himself a part of its successes.

A man may enjoy a little complacency in wearing the coat of another, (if he gets it cheap,) but there can't be much pride in it.

Therefore, I would say to any one who is thoroughly in earnest about a country home—make it for yourself. Xenophon, who lived in a time when Greeks were Greeks, advised people in search of a country place, to buy of a slatternly and careless farmer, since, in that event they might be sure of seeing the worst, and of making their labor and care, work the largest results. Cato,* on the other hand, who represented a more effeminate and scheming race, advised the purchase of a country home from a good farmer and judicious house-builder, so that the buyer might be sure of nice culture and equipments,—possibly at a bargain. It illustrates, I think, rather finely, an essential difference between the two races and ages:—the Greek, earnest to make his own brain tell, and the Latin, eager to make as much as he could out of the brains of other people.

I must say that I like the Greek view best. I never knew of an enthusiast in any pursuit,—whether grape growing, or literature, or ballooning, or politics,—who did not find his chiefest pleasure in forecasting successes, not yet made, but only dimly conceived of, and ardently struggled for. The more enthusiasm, the more evidence, I should say, in a general way, of incompleteness and apparent confusion.

Show me a cultivator, whose vines are well trained by plumb and line, whose trees are every one planted mathematically

in quincunx order, whose dwarfs are all clipped and braced after the best pyramidal pattern, and I feel somehow that he is a fashionist, that he reposes, upon certain formulas beyond which he does not think it necessary to explore. But where I see, with an equal degree of attention, irregularity and variety of treatment,—tendrils a-droop and fruit-spurs apparently neglected,—I am not unfrequently impressed with the belief that the cultivator is regardless of old and patent truths, because their truth is proven, and because his eye and mind are on the strain toward some new development.

When a good, kind horticultural gentleman takes me by the button-hole, and tells me by the hour, of what length it is necessary to cut the new wood in order to insure a good start for the buds at the base, and how the sap has a tendency to flow strongest into the taller shoots, and other such truisms, which have been in the books these ten years, I listen respectfully, but cannot help thinking,—“my dear good sir, you will never set the river a-fire.”

Nor indeed do we want the river set on fire; but we want progress. And all I have said thus far is but preliminary to the truth on which I wish to insist—that a graduated progress is essential to all rational enjoyment, whether in things rural, christian, or commercial.

And for this reason I allege that all things which are proper to be done about a country house, are not to be done at once. Half the charm of life in such a home, is in every week's and every season's succeeding developments. If, for instance, my friend Lackland, whose place I have described in previous papers, had found a landscape gardener capable of inaugurating all the changes I have described, and had established his garden, his mall, his shrubberies, and had made the cliff in the corner nod with its blooming columbines, within a month after occupation, and established his dwarf pears in full growth and fruitage, there may have been a glad surprise; but the very com-

*I shall make no apology for the introduction of these two heathen names, since both authors have written capitally well on subjects connected with husbandry and rural life.

pleteness of the change would have left no room for that exhilaration of spirits, with which we pursue favorite aims to their attainment. No trout-fisher, who is worthy the name, wants his creel loaded in the beginning; he wants the pursuit—the alternations of hope and fear; the coy rest of his fly upon this pool—the whisk of its brown hackle down yonder rapid—its play upon the eddies where possibly some swift strike may be made—the sway of his rod, and the whiz of his reel under the dash of some struggling victim.

It is a mistake, therefore, I think, to aim at the completion of a country home in a season, or in two, or some half a dozen. Its attractiveness lies, or should lie, in its prospective growth of charms. Your city home—when once the architect, and plumber, and upholsterer have done their work, is in a sense complete, and the added charms must lie in the genial socialities and hospitalities with which you can invest it; but with a country home, the fields, the flowers, the paths, the hundred rural embellishments, may be made to develop a constantly recurring succession of attractive features. This year, a new thicket of shrubbery, or a new gateway on some foot-path; next year, the investment of some out-lying ledge with floral wonders; the season after may come the establishment of a meadow, (by judicious drainage) where some ugly marsh has offended the eye; and the succeeding summer may show the redemption of the harsh briary up-land that you have scourged into fertility and greenness. This year, a thatched rooflet to some out-lying stile; next year, a rustic seat under the trees which have begun to offer a tempting shade. This year, the curbing of the limbs of some over-growing poplar; and next year,—if need be—a lopping away of the tree itself to expose a fresher beauty in the shrubbery beneath. Most planters about a country home are too much afraid of the axe; yet judicious cutting is of as much importance as planting; and I have seen charming thickets shoot up into raw, lank

assemblage of boles of trees without grace or comeliness, for lack of the courage to cut trees at the root. For all good effects of foliage in landscape gardening,—after the fifth year—the axe is quite as important an implement as the spade. Even young trees of eight or ten years growth,—which stool freely,—(such as the soft maple, birch, chestnut and locust,) when planted upon declivities, may often be cut away entirely, with the assurance that the young sprouts within a season will more than supply their efficiency. Due care, however, should be taken that such trees be cut either in winter or in early spring, in order to ensure free stooling or (as we say) sprouting. The black birch, which I have named, and which is a very beautiful tree,—not as yet, I think, fairly appreciated by our landscapists—will not stool with vigor, if cut after it has attained considerable size; but the saplings of three or four years, if cut within a foot of the ground, will branch off into a rampant growth of boughs, whose fine spray, even in the winter, is almost equal to its glossy show of summer foliage.

I do not know if I have made my case clear; but what I have wished has been to guard purchasers, who are really in earnest, against being disturbed or rebuffed by the rough aspect of such country places as commend themselves in other respects. The subjugation of roughness, or rather, the alleviation of it by a thousand little daintinesses of treatment, is what serves chiefly to keep alive interest in a country homestead.

Some old wall is to disappear one month; an unsightly patch of ground is to be healed the next month; some capital spot for propagating purposes is to be trenched another month. Thus every sun brings its prospective delights and treasures.

I must say, for my own part, that I enjoy often for months together, some startling defect in my grounds—so deep is my assurance, that two days of honest labor will remove it all, and startle on-lookers by the change. Thus, if I am not greatly mistaken

we are accustomed to regard some favorite sin—thinking with ourselves—it will be so easy to mend *that*, so simple to reform it all; and we go on coddling the familiar pipe, or glass, or the trifling stretch of our credit, meditating with high glee upon the profound satisfaction with which we will come down upon it all some fine morning—as farmers do, by spasms, upon their weed patches. But (and herein lies the excellence of the rural activities I commend) we keep the sins green and growing, and the sweep never comes;—while the old wall, and the riotous weeds are one day whisked away under the besom of a new purpose, and the change is magical, inspiring and exhilarating.

I don't mean to say the conquest of a favorite sin would be any the less so; I only mean to say, that your chances of making the conquest are far less.

An horticultural writer, to be sure, has no right to talk on such topics;—"let him keep to his weeds"—you say. And I will.

But let no rural enthusiast hope to uproot all the ill-growth, or to smooth all the roughnesses in a year. He would be none the happier if he could. We find our highest pleasure in conquest of difficulties.—And he who has none to conquer, or does not meet them, must be either fool or craven.

Edgewood, Dec., 1865.

HOW TO REMODEL AN OLD FARM HOUSE.

BY GEO. E. WOODWARD, AUTHOR OF "WOODWARDS COUNTRY HOMES."

WE never build a house for our own use, but what somebody fancies it. Just as soon as we are comfortably settled, our roads in fine order, our lawn in handsome shape, vines, flowers, trees, &c., growing, it captivates some one. Accidentally naming a price for our former home, before we had time to reflect, it became the home of another. Adjoining the property thus sold, was a six acre tract, and on it an old stone farm house, whose foundations were laid a century ago. On the broad and ample

hearth the fire blazed before the Revolution, "In old colony times, when we were under the king." The massive walls two feet thick, were as solid as the day they were laid, the timbers and floors staunch and good for a century to come; but all else gave evidence of the wear and tear of time, the shingles were literally worn through, and all exposed wood-work in a state of dilapidation. It might be termed a very hard subject.

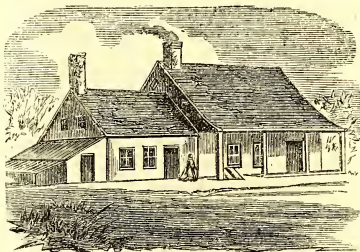


FIG. 1.—View of the old Farm House.

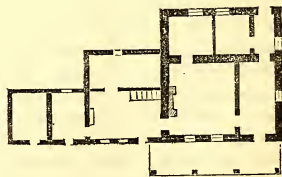


FIG. 2.—Plan of the old House.

Making up our mind at once, what could be done with it, we made the purchase and

took possession, surprising the owner even more than we were surprised.

Those who are suddenly turned out on the world, in these days of scarce houses, or rather no houses, can appreciate such circumstances.

The main building, as represented by the heavy walls in the plan, we modernized only so far as to make it useful, and to harmonize with the necessary additions.

In the parlor was retained all the original

features: a moderately low ceiling, the old fire-place, four by six feet, each jamb a solid block of stone, and the deep windows, with twenty-four panes of glass. The only change in the exterior was to project the cornice two feet on all sides, and to construct the Dormer window to light the hitherto unfinished attic. A chimney was added, and the roof entirely reshingled.

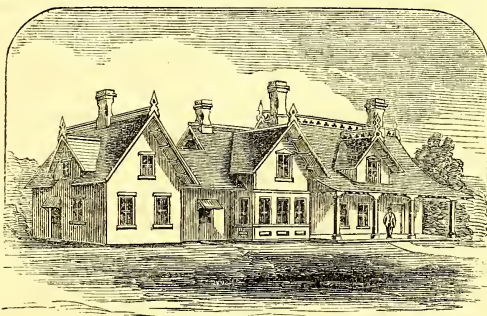


FIG. 3.—The old Farm House Re-modeled.—Residence of Geo. E. Woodward.

The first addition containing the dining-room was changed, by putting a spacious bay window on the front, which was carried up, and covered by the centre gable, thus giving a convenient, pleasant room above; this, some day, can be again raised, and converted into a tower, giving greater variety to the sky-lines, and but for a single hill, affording a view of the

domes and spires of seven cities, and the passing trains on six different lines of railroads. The kitchen apartments were entirely reconstructed, with cellar, &c., and so arranged that they may be occupied independently by the gardener and family, if we choose to lock up the house and spend the winters in New York.

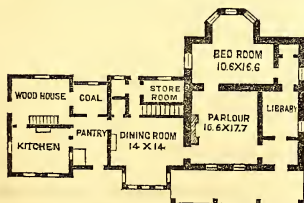


FIG. 4.—Plan first floor improved.

If we had been required to draft such a ground plan as is shown, we should have advanced several objections, but a practical use proves it to be exceedingly convenient, comfortable and satisfactory; and it is often the case in rearranging and adding to



FIG. 5.—Plan of second floor.

old houses, that plans are developed that prove to be better than most that are devised for new buildings.

The plan of the grounds and the changes made we will show in our next number.

Boiling Spring, New Jersey, where this

house is located, is situated on the Erie Railway, ten miles from the City Hall, New York, on high ground, being on the dividing ridge between the Hackensack and Passaic rivers. The Erie Railway run their "broad guage palace cars" almost hourly each way, over a double track, straight and level. Twenty-four minutes is the running time to Pavonia ferry, and fifteen minutes more to Chamber-street, New York. The fare, per annum is \$49.75., which is eight cents per trip, or 20 per cent. less than omnibus fare in the city. To those who do business in town and love to live in the country, rapid and convenient access is necessary, and a double track national highway, like that of the Erie road, with its immense resources, affords facilities more reliable than any existing between the upper and lower portions of New York city. Those who live above 30th street, are more remote from business; and before any of the northern and eastern lines of railroad get clear of the city, we are fairly at home in the country. Whoever wishes to verify this statement, should cross the Pavonia ferry from foot of Chamber street, New York. If a traveler of some experience, and so fortunate as to take the train drawn by engine No. 7, you will soon discover there is a master hand on the throttle valve, and that the conductor is the right man in the right place. Twenty-four minutes precisely, and the Boiling Spring Station is reached. The station-house is the prettiest one of its size in the United States, finished

throughout in hard woods, oiled and varnished, with roof laid in bands of colored slate; has telegraphic communication with all the rest of the world, and an attentive and obliging agent. If you expect to see a village, or even the beginning of one, you will be disappointed. You have landed in a quiet country locality, where the land is good, high, rolling and handsome; views extensive and beautiful; situation healthy, and desirable; fine farms, magnificent springs, good roads, &c.; but had one been dropped down blindfolded, the wisest head would have been puzzled to say whether he was ten miles or one thousand from the pulsating heart of the great Metropolis. The place has been overlooked; the railroad was built 35 years ago, before the days of commutation travel. Those who own the property say nothing about it; the world wags on, we live in rural privacy; the din of business hours is enough. But farm life, half an hour from Broadway, cannot last always. New York is overflowing; the fever-nests are full and life too short to travel *Spytten-Duyvel*-ward, daily, in a horse car. Yes, citizens of New York, you have had your fun out of New Jersey, but your overflowing thousands will have to go there, where thousands of your business men now go to and fro daily. More than all the avenues of travel convey in other directions, Brooklyn excepted, where better land can be had for one-fourth the money, and where you can live as well for one-half the price.

MY NEIGHBORS AND MYSELF.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

THE little, unpretending domain upon which I have been contentedly operating for several years, lies within five minutes' walk of the gas lights and the post office at Burlington, New Jersey. The trains upon the great railroad pass hourly within sight of my door, rattling every window in

the house, and giving constant cause for wonder as to where so many people can be going to. It fronts on what was once the old royal highway, the first great thoroughfare laid out in colonial days, to facilitate communication between the sea-shore settlements. The last twenty years have revolutionized

its condition, as well as the appearance of the country through which it passes. It is now a graveled turnpike all the way from Burlington to Camden. The road bed is level, smooth and hard, almost equaling a tenpin alley, and superior to any race course. A dash of iron contained in the gravel, imparts to it a remarkable solidity. It is so well cared for by its owners, that a bad road is altogether unknown. Its construction has doubled the value of every farm upon its track. Everywhere it is lined with improved dwellings, better fences, finer orchards, and more productive fields. Loaded wagons roll over it by aid of a single horse, where two were formerly required, and the pleasure carriages of the neighboring gentry invariably select it for an evening drive. There could be no more convincing illustration of the transformation in improvement and population which follows the creation of a superior road. It draws old settlers from remote neighborhoods to locate upon it, and with strangers looking for a lodgment it is the determining element which fixes their choice. Thus population clusters about it; and as it is population that gives value to land, so as that thickens do values increase.

My neighbors on this favorite thoroughfare have been far more careful of the outside finish of their farms than myself. They put up fancy fences, establish graveled avenues, and crowd their lawns with evergreens and shrubbery; and even in these days of extravagant prices, are profuse consumers of paint and whitewash—all this, moreover, without having an acre to sell. Still, while these really cheap embellishments are introduced, they attend with wonderful assiduity to their farms, using fertilizers in prodigious quantities, and harvesting huge crops of everything for which the two great cities are clamoring daily. Long practice has taught them what pays best. They raise corn and wheat enough for home consumption, and strain every nerve for crops of fruit and early vegetables. The successes of some of these men are truly

remarkable, and they can afford to make their homesteads attractive.

I have done but little at embellishment. The useful, the practical, have occupied most of my time and attention. One may have abundance of taste, and long as keenly as his neighbors for the ornamental, without being ready to indulge in it. Hence my extensive front upon the road has received no tasteful touches such as my neighbors have long since given to theirs. But even *my* time is coming. An adjoining swamp of a few acres has been added to my ground, not because ten were not really enough, but because it was a neighborhood nuisance, grown up, since the foundation of the world, with ferns and skunk root. Some patriot must abate it, and why not devolve the task on me? It is now, after three years' labor and attention, drained, filled in, and producing, on a four feet deep foundation of clear peat, a strawberry crop which annually refunds the entire cost of reclamation. Drought never pinches the plants, and manure is wholly unnecessary. Wherever the raspberries come within reach of this deep, rich, and ever moist deposit, the growth of canes may be said to be amazing. My Philadelphias, thus situated, have been the admiration of all who have examined them. It has been a great success, though it drew down upon me the hearty pity of my neighbors, as they drove by and noticed my incomprehensible beginning; but now, when fully completed, securing their equally hearty commendation.

It is success that makes one famous, even in ditching. Thus, they consider me a sort of swamp hero. So strong is the imitative faculty in man, that I even hear that some of them are thinking of reclaiming little bogs of their own. Some have consulted me quite seriously as to the cost of such an operation, as they are now disposed to consider me something of an authority on the subject of pitching dirt. Little confidences of this kind are extremely flattering to one's pride, the more especially

after having persevered, in the face of innumerable warnings that the improvement wouldn't pay. But the truth is, that the cost of reclaiming even a stubborn swamp is not so serious a matter as is generally supposed. I am inclined to think that the doing of it will find favor in the eyes of all who once undertake it. It is true the mud may stick to one's garments, but sticking to the mud will be found to pay. Nearly all this work of repairing these waste places of the earth was done during winter, when there was nothing else on hand. In this genial climate, we have but few snow storms, and can plow, at brief intervals, throughout the winter. The Indian summer stretches itself, with grateful attenuateness, all through December. In the dead of winter we may encounter a cold snap of a few days, sometimes of a week, but rarely longer. Then comes a thaw which loosens everything by extracting the frost, and then out-o-door work is resumed. We survive the winter without suffering, and at the earliest singing of the blue bird we begin the regular spring varieties of planting.

Such a neighborhood, as may be supposed, is very thickly settled. One never hears of the sheriff being called in to sell a farm, except his action is necessary to unravel some domestic difficulty. I can hardly call my neighbors horticulturists, yet all of them are famous fruit growers. Some have risen from the humblest beginnings, and are now owners of noble farms, with spacious buildings, and are annually loaning money on mortgage to others of the craft, whose feet are only on the bottom round of fortune's ladder. Not more than half cannon shot from me is one of these self-made men. Nine years ago he was a journeyman shoemaker, in our city, with health so feeble that he would soon have died if much longer confined to the close atmosphere of the workshop. Breaking away from it, he took up a few acres of only half improved land, without a shed upon it, running in debt for almost every

thing, and struck out largely into strawberries. But character was capital, for whenever a helping hand was needed, he could find one by merely reaching his own across the nearest fence. He prospered hugely in every way, though having everything to learn. Renewed and vigorous health came bravely to his aid; he worked intelligently, having a passion for both fruit and flower, crops were consequently good; prices were even better, and he has gone on prosperously to independence. New and beautiful buildings, surrounded with shade trees of his own planting, now give elegance and grace to what, ten years ago, was covered with the debris of a pine clearing. Like most of us, the passion for more land seized upon him, and he has gone on absorbing the adjoining fields, until he now counts fifty-five acres. But here he wisely paused. Every inch of it is paid for, and he is lending to others, who in their turn are beginners. A ramble over his beautiful fruit farm would teach an instructive lesson even to the most extensive fruit grower, while to pioneers it would be invaluable. There are thirteen acres of strawberries, ten of blackberries, and six of raspberries, with peaches in abundance, and great fields of asparagus. His gross annual receipts are nearly five thousand dollars. Temptation to part with this productive home has repeatedly been presented in the shape of an enormous price, but the family turns a deaf ear to all seduction. They are happy on a home of their own creating; there their children were born; there the father renewed his health; there the mother is supremely contented; and how could they be bettered by selling? In this world, mere money is far from being the only good.

Another, a young man of six-and-twenty, rejoices in the ownership of fifty acres, all which, except the small mortgage yet remaining on it, is the work of his own intelligent industry. His forte, also, is the berry culture, interspersed with corn for his own use, melons, truck, and peas for

the Philadelphia seed stores. There is, moreover, an extensive trellis which is annually loaded with the Isabella grape. Until tasting these this fall, perfectly ripened as they were, I never knew the Isabella grape was fit to eat. Struck with the admirable flavor of the fruit, as well as with the perfect condition of each particular grape. I inquired why the fruit of these vines was so remarkably fine. The owner smiled as he told us that the earth around the roots was the general burial ground for all the cats, and dogs, and pigs, and mules, and horses which had there shuffled off their mortal coils since he had been upon the farm. What marvellous elaboration there is in nature, I concluded—"from seeming evil still educing good." Try as one might, he could detect no twang of pork, not the faintest flavor of a mule steak.

Only this summer a stranger from the bleaker climate of New England, went over his farm and offered to buy. While debating pros and cons, his visitor inquired as to the gross amount of his sales the previous year. He was unable to answer, having kept no books, nor could he even conjecture the amount.

"But," said I, "you owe a mortgage on your farm?"

"Yes," was the reply, "four thousand dollars."

"Were you able to reduce the amount last year?" I inquired.

"Oh, certainly," he answered, as if it were a matter of course. "I paid five hundred dollars in July, then three hundred more, and I think, three hundred more."

"How about the present year?" I continued.

"Why, Sir, in July I paid five hundred, and with what cash I have, and the remainder of my crops, I shall make another equal payment at new year."

"Do you mean," added the New Englander, "that you kept your family, maintained the condition of your farm, and paid

off a thousand dollars of your mortgage without going into debt somewhere else?"

"I do," was the reply, "and in three years, my farm will be clear."

Taking out a pencil, we figured it up that this farm was clearing nearly ten per cent. of its estimated value, after keeping the family of the owner. There seemed to be no getting over the facts, for he was known among us as a sincere and truthful man. Thus, though keeping no record of his crops, yet the mortgage he owed was the great account-book in which every-
-ory had posted up the true balance sheet of his business. Brought up to that test, his operations became perfectly intelligible. Since this interview I have seen his crop of seed peas, raised for a city retailer, and learned that it produced him very nearly six hundred dollars.

But in the lottery of this horticultural life, there are blanks as well as prizes. Not many minutes' ride from me is a gentleman of education, possessed of a fine horticultural taste, who anchored himself some three years ago upon a farm of forty-six acres, directly on the level turnpike referred to. His hobby was the fruit culture; but, considerably advanced in life, he has discovered, that for one of his years, he has too much land. Ten acres, he believes to be enough, at least for him. Yet the enthusiasm with which he began continues unabated, and he grieves over the prospect of selling. His predecessor also, was not deficient in taste. Between them there are no less than four hundred of the choicest pear trees in bearing, peach trees by the hundred, all the best blackberries by the acre, strawberries and raspberries in large quantities, with apple trees, and very productive grape vines. Just behind the dwelling is a natural spring, which fills a pond containing fish of various kinds, and which a fortnight's labor would convert into a pond quadruple the present size.

There is a boat upon it, and a grove of pines, covering an acre, runs down to the margin of the pond, a charming feature of

the summer landscape. Few places can be found in this region which a small expenditure would convert into a more delightful retreat. Better, perhaps, than all, there is an inexhaustible bed of superior muck, easily and cheaply obtained, with which the whole farm could be fertilized to the highest point of productiveness. Yet all these rare facilities have been left comparatively unappropriated because the owner has too much land. Instead of a gross product of some three thousand a year, he shall have half as much more. It is a broad foundation he has laid, on which whoever succeeds him may build to any reasonable height. If to him his farm has proved a comparative blank, to a younger and more driving man it will yet prove a brilliant

prize. But having discovered the extent of his capacity as a manager, he is content to give way, and instead of half cultivating a large farm, intends to convert a small one into a perfect garden spot.

I know that little bits of personal gossip of this character are somewhat out of place in the classic pages of THE HORTICULTURIST; but one always likes to know what his neighbor is doing. The scientific gentleman, who, in speaking of the artichoke, must call it *helianthus tuberosus*, will doubtless smile over these homely details of New Jersey life, and wonder at the simple, though successful lives we are living. But a true picture, be it never so homely, will nevertheless possess a certain interest with the masses.

GRAPES IN 1865.

BY A. S. FULLER, AUTHOR OF FULLER'S GRAPE CULTURIST.

ROTTED badly; mildewed some; very poor; rose-bugs played the mischief; excellent in our section, and brought a good price.

The above, I believe, is a fair report of the grape crop of 1865.

Shall I attempt to locate these reports? if so, I fear that some of the much lauded *natural grape lands* and situations would be found among the "rotted badly." How is it, in those wonderful locations, where land is so cheap, and vines grow so rapidly, and produce such prodigious crops, that ordinary vineyards pay a profit of fifteen hundred dollars per acre the third year after planting, *provided the mildew* don't come, or a late spring frost don't cut off the blossoms, or the very severe winter did not kill the fruit-buds?

I do not wish to be partial, therefore I have thought best to give a list of excuses usually made by the grape growers of these peculiar regions, that are said to have been made especially for vineyards. Here, *down east*, on the Atlantic slope, grapes grow in

soils, which, at the creation, were not intended for such a purpose, consequently we have very little trouble with grape rot, late spring frosts, or winter killing of the fruit-buds.

Occasionally, a few leaves are attacked by mildew, or a stray Catawba, (which originally came from one of the more favorable regions,) shows a few grapes with the black rot.

I believe that the only disease that is at all fatal to the grape, east of the Alleghenies, is one that is also often found west of them, viz: neglect. Vines that are properly pruned and cultivated seldom fail to produce a good crop; not always a crop of good fruit, for there are but few varieties which can be called good. And I think it is time for our eastern vineyardists to try and decide which are the best varieties of our native grapes,—not which varieties succeed best, for there are but few that will not succeed if properly cared for.

Please remember that I am speaking of localities that have not been surveyed and

offered for sale as grape lands, but such as can be found almost any where within one or two hundred miles of the Atlantic coast from Massachusetts to Georgia.

And there are thousands of acres of as fine grape lands within fifty or a hundred miles of New York city, as there is in the United States, and cheaper than they can be had anywhere else in the world, all for less than it cost to make the improvements now on them. So my young friend, if you want to plant a vineyard, and have but little capital to begin with, just take a look in New York, New Jersey, Pennsylvania, Maryland, or even Delaware. But if you have capital, and wish to spend it in clearing up new lands, far away from market, go west, by all means, and spend it.

Really, is it not time that this theory of particular locations for grape growing was checked? or to put it in another shape: cannot grapes be grown profitably, except in localities where Mr. X or Y has accidentally or purposely planted a vineyard, and by proper care made it produce a fine crop, and then come to the conclusion that it must be all in locality and soil? Consequently, land goes up in the vicinity, and plenty more of the same kind is for sale at five times of its real value.

Will not grapes grow over as wide an extent of country as apples or pears?—certainly. Will they not grow in as great a variety of soils? If any one doubts it, let him travel over the country and see in how many different situations and soils he can find vines growing luxuriantly.

That some soils and situations are more favorable than others, no one will deny; but that there is such a great difference as fashionable grape culture at the present day would have us believe, I, for one, doubt.

But the question arises, what shall we plant? This question is difficult to answer, because we have so many that are good. For my part, I would not hesitate to plant for *profit* any of the following: Delaware, Iona, Israella, Concord, Creveling, Hartford and Rogers' Nos. 3, 4, 15 and

19. If this is not variety enough, you may add Adirondac, Clinton, and Isabella.

Among the newer varieties, we shall probably get some that will prove equal, if not superior, to any of the old ones.

I am much pleased with Moore's new hybrids, as they show more distinctly that they are hybrids than anything we have before seen. If the Diana Hamburg proves to be hardy and does not mildew, I certainly shall give it the preference over anything I have seen among the hardy grapes. Mr. Moore has also several others that give promise of great excellence, among which is Moore's Black, Clover-street Black, &c.

Iona must look well to her laurels, or Clover-street, Rochester, will make a call for them some of these fine days.

I regret to say that the Renselaer grape, that I mentioned in my last, has proved to be *Isabella*. After traveling some two hundred miles to see a new grape, and there find old mother *Isabella*, instead of a fine young miss, it's too bad, but this old lady is always to be met when and where she is not wanted.

I think this was the twenty-fifth time that I have met her under like circumstances, and it only goes to prove that she dresses very differently in different parts of the country, just to suit the climate.

The Fancher was excellent again this year, and will have to be admitted as distinct from Catawba, as it grows and ripens well at Lansingburgh, N. Y., where the Catawba does not succeed. F. B. Fancher, of the above place, is indefatigable in hunting up the new fruits in his region. He has lately discovered another which he calls Saratoga, a large red grape of the Catawba flavor, but fine.

The Maguire is another new variety of the Hartford Prolific style, but will probably be too foxy to go among the good varieties.

Aiken grape, of which so much has been said at the West, is Isabella; Richmond, is Isabella; German grape from Indiana, is Clinton; Emma, another new and wonder-

ful grape, is Catawba, or so near like it that I cannot see the difference.

Haskel, from Michigan, is Concord; but really, Messrs. Editors, I must drop my pencil, or I shall hurt somebody's feelings, and prevent some enterprising fellow making

a few thousands out of some old variety with a new name. But how can one write about grapes without hurting somebody, especially when mixed up in grape culture?

Woodside, Dec. 1st, 1865.

WHAT NOT TO DO.

BY PETER HENDERSON, JERSEY CITY, N. J.

I HAVE long believed that more real good is often done to the novice in the cultivation of the soil, by telling him what not to do, than by telling what to do. Agriculture and Horticulture are prolific of charlatans. I know not whether it is so in other departments of trade; but, if so, a great part of the industry of the world must be wasted in labor worse than useless.

A rascal of a tree peddler, not content with victimizing a poor farmer near me in the sale of two hundred worthless apple trees, added still further to the injury by inducing him to put a bushel of stones in the bottom of each hole for drainage; which was done at an expense that the poor man was ill-able to bear. I need not tell your intelligent readers that the advice had better not been given. Appropos to this subject is the so-called draining of plants grown in flower pots, almost universally practiced by amateurs and private gardeners, and recommended carefully in detail by nearly all writers on green-house plants. Now, in the face of all these hosts of instructors, I contend that this practise is not only useless, but something worse, as it robs the plant of just so much soil as is displaced by the drainage (?) without benefitting it in any way whatever. Yet, such has been the practice of thousands for a century, each one following the lead of his predecessor, stupidly and blindly, as we think.

This practice has long been discontinued by all the large nurserymen and florists in the neighborhood of New York, who it is

well-known grow plants equal to any in the world. This is another negative item.—Again, when some of your lady readers, in trying to increase by slips the number of some favorite geranium, rose, carnation, or fuchsia, turning to the "book" for instructions, she finds herself bewildered by a score of conditions that has got no more to do with the successful result of her operation than the man in the moon; but she naturally enough ascribes her want of success to the "want of silver sand," or "not having cut at the right joint," or "not having held the cutting by the right finger and thumb," or some such nonsense as the writer has laid down as necessary to success.

Or a farmer or gardener, whose experience and practice has been confined within the bounds of his own fence, sees under a hot July or August sun, the leaves of his cabbage or cauliflower crop "wilt." Past experience tells him what's the matter; the plants have become club-rooted, and he knows that all his labor and expense in getting the crop to this stage is lost, or nearly so, and he looks around (as he has often done before, but without success,) for the cause.

He is again at fault, but goes and consults with a new neighbor who is already renowned for being a savant in all such matters. The case is simple, for the adviser is deep-read in horticultural lore, and it is too often repeated to be easily forgot by him, that club-root is caused by the use of manure from the hog-pen; and it so hap-

pens that his advice-seeking friend did allow his pigs to run over his manure heap, and they at once jumped at the conclusion that this is only another corroboration of the popular belief.

I will state that our large experience in the cultivation of cabbage and cauliflower

for market, has well proved to us, that this, in common with many other horticultural dogmas, is an error; and that "club-root" is assignable to another cause. But as this is only a negative article, I will give you more positive information on club-root in my next.

THE LONGEVITY OF TREES.

BY REV. A. D. GRIDLEY, CLINTON, N. Y.

WE do not introduce this topic with the expectation of being able to say anything new to scholars, but in the hope of suggesting an agreeable train of thought to those who have not hitherto given the subject much attention.

How long do trees live? or rather, how long would they live, if not accidentally injured; if disease did not invade them, or if they did not fall by the woodman's axe? Might they not live forever? Is there a necessary limit to their existence? The common opinion is, that like the animal races, they have their periods of infancy, youth, maturity, decline, and old age. They die not by accident, but in obedience to certain original laws of their being; their cells become hardened and incrustated, the fluids cease to flow in a healthy manner, and the organism perishes. It wears out, and runs-down like an old clock.

So far as the theory of vegetable life and growth is concerned, it would seem that a tree ought to live for an indefinite period. The parts of a tree which carry on the processes of life and growth, are the extremities of the stem and branches, including the buds; the extremities of the roots and rootlets, and the newest strata of wood and bark. These are renewed every year. Not so in an animal; the functions of existence are carried on for a whole life-time in one set of organs, and when these wear out the animal dies. But as the life processes in a plant are carried on through

organs never more than one year old, it would seem to follow that this order of things might be continued indefinitely.—There is no necessary reason, no cause inherent in the tree itself, why it should die.

Furthermore; a tree, as viewed by the vegetable physiologist, is not an individual, but a community, an aggregation of individuals. The only real individual in the case, is the first cell of which the plant was originally composed. Every bud since formed, and indeed every leaf may be considered an individual, since it has in itself all the elements of an independent plant, and may be made to produce one. And so, even though the inner parts of a tree become inactive and practically dead, the outer do not. Individuals may perish, but the community lives, and is renewed and augmented every year.

Trees have been happily compared* to the "branching and arborescent coral."—This structure is built up by the combined labors of a multitude of individuals,—“the successive labors of a great number of generations. The surface or the recent shoots alone are alive; all underneath consists of the dead remains of former generations.—It is the same with the vegetable, except that it makes a downward growth also, and by constant renewal of fresh tissues maintains the communication between the two growing extremities, the buds and the

* By Dr. Asa Gray, to whom we are much indebted in the preparation of this article.

rootlets." Now, as the coral structure lives and grows indefinitely, though the individuals composing it perish, so a tree, considered as a composite structure, may live on in the same way, without any assignable limit to its life. Every joint in its root, as well as every bud on its branches, might be taken off and set up for itself to form a separate and independent tree; but if all the children choose to remain on the homestead, need the family die out?

So much for theory; and there are some facts which go far to sustain it. But there is another side to this question. So far as theory goes, the human body is the same in its constitution now, as in antediluvian times, when men lived eight or nine centuries; but the stubborn fact is, that "the days of our years are three score and ten, and if by reason of strength, they be four score, yet is their strength, labor and sorrow, for it is soon cut off and we fly away." We occasionally see a man who inherits no perceptible disease from his parents, and who continues in good health to eighty and ninety, and even one hundred years. Up to this period, nature's laws work with a good degree of regularity. He eats, drinks, digests and sleeps about as well as ever; and no one can tell why he may not live for an indefinite period longer. Yet every body knows that this is an exception to the general rule, and that the general rule will soon assert its sway. The old gentleman takes a slight cold, or he stumbles and falls, or his digestion becomes impaired, or some other ailment sets in, and he suddenly dies. Nature could hold out no longer. Theoretically, he should have lived on for many years, but another law prevailed, (call that law what you may) and he died. So in the vegetable kingdom; by theory, a tree has no assignable limit of life, but practically, it has. Cases of extreme longevity sometimes occur, but they are rare exceptions, and even these trees finally perish. The biography of many an old tree is like this: the tree grows to its allotted height, then

expands laterally, both in its branches and girth. After a period, it begins to die at the centre. The rotten portion within increases faster than the new wood is formed without. The tree, though now old and hollow, still looks healthy. (It represents the vigorous old gentleman of eighty years). At length the strong winds sway it about, and rack it violently, and a fissure is made somewhere in trunk or branch, into which air and rain soon penetrate. By and by the decay of the centre crops through the bark near the ground—(The old man takes a cold). The leaves expand bravely every spring, but the rot in the trunk annually increases; limbs decay and are blown off, one after another, until at length the rot extends all along the trunk, and before many years a gale prostrates the old tree upon the ground, a total ruin. (The aged man dies a hundred and ten years old). Now, theoretically, that tree ought to have lived, but another law supervened, and the tree succumbed.

In considering facts like these, the thoughtful man will be impelled to say, surely something evil has happened to the earth since its creation. The natural world seems to sympathise with its chief inhabitant and lord, bearing part of the woe which has fallen upon him.

"O earth! dost thou, too, sorrow for the past,
Like man, thy offspring? * * * * *
* * * * * Dost thou wail
For that fair age of which the poets tell,
Ere yet the winds grew keen with frosts, or fire
Fell with the rains, or spouted from the hills,
To blast thy greenness?"

But perhaps we have dwelt too long upon the theoretical aspects of our subject. One way to ascertain the age of trees, is by measurement of their girth at a fixed point from the ground. This does not give a perfectly reliable result, because some species grow more rapidly than others, and among the same species, difference of soil and exposure produces a difference in vigor of growth; yet it helps to an approximation.

The "Washington Elm," at Cambridge, is supposed to be upwards of 140 years old, because it is known that the celebrated Whitefield preached under its shade in the year 1744. The Aspinwall Elm, at Brookline, is known from historical data, to be about 200 years old. The great Elm on Boston Common, is believed to be of about the same age. Now, of these trees, the first measures 14 feet in girth, at four feet from the ground; the second measures 17 feet, at five feet from the ground; and the third, sixteen and a-half at the same height. With such data, one can go about the country, (as the "Autocrat of the Breakfast Table" has done,) and with tape-line in hand, determine the age of trees, with considerable accuracy.

Another method is by counting the annual concentric layers of a tree. (Of course, the palms and their allies are excepted here). But this cannot well be done without first cutting down the tree; and even then, the centre of many old trees is found rotten or hollow, so that a little *guessing* has to be resorted to. When the tree is sound, and the rings can be accurately deciphered, this mode is quite reliable. The old age of trees is perhaps most commonly arrived at, wholly or in part, through historical evidence or tradition; but it is necessary to sift this evidence with great care.

Every reader of newspapers and books meets with occasional instances of remarkable longevity in trees. The following, therefore, may not be wholly new to the readers of the HORTICULTURIST: An Oak, lately cut down in Poland, was found to have 700 distinct rings, and the hollow centre of the tree was estimated to represent 200 years more.

A Sycamore Maple, now standing near the village of Trons, among the Alps, is believed to be 550 years old. It is known that the famous "Grey League" was ratified beneath its spreading branches, in March, 1424. It must have been a century old then. There is a remarkable Linden in

Neustadt, Wurtemberg, which was so noted in the 13th century, as to be called "The Great Linden." An old poem, dated 1408, mentions that "before the gate of the city of Neustadt, rises a Linden, whose branches are sustained by 67 columns." These columns were pillars of stone, set up to support the immense branches, one of which extended horizontally more than one hundred feet! Its age is computed at about 820 years.

The celebrated "Tortworth Chestnut," is probably the oldest and largest tree in England. In the reign of Stephen, which began 1135, it was remarkable for its size. It is now 55 feet in girth, at five feet from the ground, and is doubtless 1000 years old. One of the oldest oaks in England, is the "Parliament Oak," in Clifstone Park, so called from a Parliament held under it by Edward the 1st, in 1290. Who has not heard of the immense oak near Cozes, in France, 90 feet in circumference at the ground, out of whose hollow centre, a room 10 feet in diameter and 9 feet high has been cut out? It is put down at 1500 years from the acorn. The Olive tree attains a great age. One, lately cut down in the suburbs of Nice, in Italy, showed nearly a 1000 years. Of the four now standing on the Mount of Olives, tradition may not greatly exaggerate in making them 1500 years old. The Yew is the longest lived tree of Northern Europe. Several specimens at Fountains Abbey, in Yorkshire, England, are believed to be 1215 years old. The famous "Darley Yew," in Derbyshire, has reached 1350 years. The famous "Big Trees" of California, (*Sequoia gigantea*) are among the most remarkable curiosities in the vegetable world. The evidence is reliable, that some of them are 90 feet in circumference, and 450 feet from the roots to the extremities of the branches!

We wonder not at the enthusiasm with which the late Dr. Lindley, on first hearing of this discovery, exclaimed, "What a tree is this! Of what portentous aspect, and almost fabulous antiquity! They say that

the specimen felled at the junction of the Stanislaus and San Antonio, was above 3000 years old; that is to say, it must have been a little plant when Samson was slaying the Philistines, or Paris running away with

Helen, or Aeneas running away with good pater Anchises upon his filial shoulders."

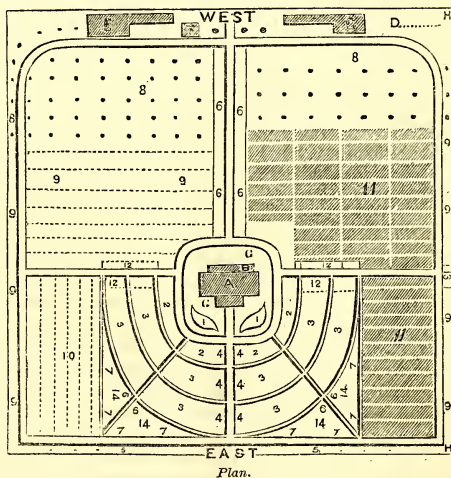
But there is no end to facts and statements like these, and here our record may as well be closed.

PLAN FOR LAYING-OUT A SQUARE ACRE LOT.

DEAR FRIEND AGELLUS:

Yours of last month is received. You want me to answer as soon as possible, and to send you a plan for laying-out the acre you have just bought. One acre! That's more than I have. We have books now, entitled, "Ten Acres Enough," "Our Farm of Four Acres," "Our Farm of Two Acres." I hope we'll soon have one, "One Acre Enough."

Well, I have tried my best; but I don't know whether it is according to your taste. "*De gustibus non est disputandum*," or, as some would say, to have a rhyme, "*disputandibus*." But I hope your taste will not very much differ from mine. We are both lovers of a promenade. You must have as many walks as possible; it is necessary for your health. I have arranged the walks so as to satisfy the eye, the nose and the pal-



ate. When I shall come and visit your new home with our mutual friend Agricola, we may, when walking, not only have a full view of your floral beauties, and inhale their sweet fragrance, but may also very conveniently pick your berries.

I don't write anything about the house (A), as you don't want my advice about that. But, friend, don't forget the porches (B); at least, you should have *one*.—Around the house you should put gravel and sand (G); nothing is healthier for

your boys and girls to play on. The stable, (C) with shed, you will put in the rear on the north side, and the poultry house (E) on the other. A shed should be annexed to it for the chickens on wet days. Next to that a house for pigeons (F). The place I have assigned for the poultry house, you will find out to be a good one in after

years; your chickens, running at large under your plum trees, will save you many a plum from the curculio. North of the stable will be a good place for wood (D).

The symmetry of the plan will, I think, have your full approbation. I need only add now

THE EXPLANATION.

- | | |
|-------------------------------------|---------------------------------|
| A—House. | 4—Climbing plants. |
| B—Porch. | 5—Shade trees. |
| C—Stable and shed. | 6—Ornamental shrubs, roses, &c. |
| D—Place for wood. | 7—Evergreens. |
| E—Poultry-house. | 8—Fruit trees, dwarf. |
| F—Pigeon-house. | 9—Small fruits, currants, &c. |
| G—Gravel-sand. | 10—Strawberries. |
| H—Board fence. | 11—Vegetables. |
| 1—Bed of Verbenas. | 12—Grape vines. |
| 2—Bedding plants, tender roses, &c. | 13—Hot-bed. |
| 3—Bulbs, annuals, perennials, &c. | 14—Grass. |

I remain, yours truly,

Ruri, Nov. 13, 1865.

AQELLULUS.

GARDENS AND PARKS OF GERMANY.

EDITORS OF THE HORTICULTURIST:—

I send you herewith a copy of an essay, read before the members of the Rural Art Association, of this place, which I hope may prove as acceptable to your readers as it was to us who had the pleasure of listening to its reading. It was prepared by Mr. Edward W. Root, who has spent the past two years at Berlin and Heidelberg, Germany, and who has recently been appointed an assistant professor of Chemistry, in the school of Mines, connected with Columbia College of your city.

J. C. H., Sec.

Clinton, Oneida Co., Nov. 29th, 1865.

"I have been very kindly invited by the Rural Art Association, to occupy a portion of this meeting with a rambling description of any thing of interest which might have attracted my attention during my residence abroad. But, in order to avoid an utter confusion of heterogeneous topics and scenes,

JANUARY, 1866.

it will, I think, be best to confine myself within some limits.

As the object of this Association is the promotion of Horticulture and Floriculture, of rural embellishment and rural comfort; as its object is to aid nature in beautifying our homes and cultivating our sense of the beautiful, I think it will be most fitting for me to ask your attention to some simple remarks on the gardens and parks, on the rural scenes and love of Nature in Germany.

One of the first things which attract the attention of a stranger upon entering Germany, is the universal love of flowers. Everywhere you see them, and often in the greatest profusion. In all the large towns, the flower dealers and flower-girls are established and well patronized persons.—Wherever you go you are sure to meet them; at the cars, on the steamboat, at the table d'hôte, the concert and the ball, in the streets and in the reading-rooms.

In large cities, if there be a bit of vacant ground attached to a dwelling, it is converted into a flower-bed; but as people seldom live in a house by themselves, but several families upon the various floors of the same building, all cannot enjoy even a miniature garden, and to make up for this, you find the windows filled with beautiful flowers. I have seen large buildings in which every window had its floral screen. And way up in the attic windows, which look like loop holes in the steep roof, you see carefully cherished plants, and gracefully trained vines, their lively refreshing green contrasting very complementary with the red, dusty tiles around them. And who knows what a blessing these flowers may be to some lone, wearied seamstress, who year after year sits at her lonely window, with naught for a prospect save the glaring sea of roofs around her, or to some poor invalid, who, month after month longs in vain for the pure air and green fields of a childhood's happy home. I remember one poor woman in Munich, whose rooms were so small that there was scarce space enough to turn round in them, who showed me with a just pride, a collection of plants which would have graced any conservatory. The German gentlemen delight to wear flowers in their button-holes. And I used to meet, day after day, certain gentlemen, who never failed to have some beautiful fresh flowers in their coats. Some seemed to show a preference for some particular flower, for you always saw this one with a rose, that one with a geranium, while others would wear little clusters of violets or lilies of the valley.

The ladies delight to adorn their hair with beautiful flowers, preferring often some single fair flower to a profusion of glass beads, or steel nonsense; and I have seen fairy-like exotic blossoms, strangely beautiful, deliciously fragrant, which formed more fitting ornaments for a brow of beauty than the rarest gems.

No present is more acceptable than a

beautiful bouquet, and upon one's birthday it is a customary one. But the flowers are not always from the green-house or the garden. They are fond of wild flowers, and no German family ever returns from a rural ramble without an armful of them. They delight to gather beautiful grasses and ferns, and interspersing them tastefully with flowers to form immense bouquets. I had one presented to me upon my birthday, which was at least five feet in diameter and proportionally high. In summer, the Germans love to live as much as possible out of doors, to take their meals and spend their evenings in the pure air and along with nature. In cities, where possible, they have gardens and arbors, where they love to linger, to read, and to sing, or perhaps a spacious balcony, covered with trailing vines, will be the scene of their tea-parties; but if these be wanting, the whole family will visit some large public concert or tea garden, and securing a table under some spacious tree, will gather around it, and looking up at the over-spreading branches above them, will forget the brick walls and paved thoroughfares which every where encircle them, while the tuneful orchestra, which ever and anon sends forth its clear strains of sweetest music, makes them forget for the while, the petty cares and sorrows which pamper their existence. And so in every German city you will find a multitude of these pleasant gardens, and every fine day you will find them filled with families. The mothers, the sisters, and the whole young portion of the family—for the whole family goes—will go in the afternoon, taking their work with them, while later in the evening, after the day's business is ended, the father and elder brother drops in and accompanies them home. In the smaller towns, you find almost universally a garden connected with every house, and in this garden a never-failing arbor where the family can take their meals. In a drive upon a pleasant afternoon in the environs of a large city, I have seen scores of families sitting out of

doors drinking their afternoon coffee; some in gardens, some on lawns, and some on little plots of grass in front of their houses, just large enough to place their chairs and tables. The Germans are very fond of little family excursions into the country, both for their own pleasure and that of their children. If some pleasant spot is to be found within no very great distance, perhaps they will walk, taking with them a bounteous luncheon, and sitting around upon the green grass, under noble trees, they listen to the cheery warble of the birds, and drink in the pure air and sunshine, while the children romp and play, chasing butterflies and gathering flowers. And thus they pass a pleasant afternoon, until the evening shadows begin to gather round them, when they turn their steps homeward, all the better and happier for their communion with nature. Sunday being the day when almost every one is at leisure, you will see car loads of people dressed in their best, starting out in the morning for some favorite rural resort, and the highway thither will be lined with carriages and pedestrians. And often in some of these resorts, you will see the rich and the poor all mingled together,—the laborer who has ridden out with his children upon a hard uncushioned third-class seat, and the rich man who has come with his coach and liveried footman.

I recollect one beautiful Sunday afternoon in Munich, seeing a strange but interesting sight. It was in a beautiful park, called the English Garden. I had been strolling along the broad walks, passing groups of elegantly attired ladies and gentlemen, and fine equipages with well groomed horses and liveried coachmen, whose occupants represented the wealth and aristocracy of the capital of Bavaria, when sounds of music met my ear. Directing my course towards the sound of the music, I soon reached a large open lawn, with an undulating surface, and diversified here and there by clumps of trees. About

in the centre stood a tall open tower, and here were seated a band of musicians.—Right around the tower were numerous benches, all occupied, while in all directions, upon every side, laying and sitting on the green sward, were hundreds of men, women and children, some in groups, some apart eating their frugal lunch, drinking beer, and listening to the music. I judged that there were several thousand there assembled, and all from the lower classes,—day laborers and private soldiers with their families. There was not an unhappy face among them, and they seemed as contented as the occupants of the splendid carriages, which every now and then went rolling by them. If you wish to see the population of a German city, and every grade of it, you have only to visit such a park on Sunday. Here you will see the prince and the peasant, the general and the private, the peer and the artisan, all together, all pursuing the same object, but still as separated as by walls of iron. Kings and princes, knowing that their subjects are more contented when allowed such pleasure, have fitted up magnificent royal parks and gardens, and thrown them open to the public. And thus you find all throughout Germany, wherever you go, extensive public grounds. In our own country, such efforts must either be the result of corporations, or of individual enterprise. In Europe, they belong to and are cared for by royalty. In the kingdom of Prussia alone, I believe there are over forty royal castles, and each of these has its gardens and parks, its conservatories and hot-houses.

In this way the poor and middle class in Germany, although unable to do anything in this way themselves, become familiar with, and grow into love of horticulture. The German princes pay a great deal of attention to their parks and conservatories. Their dwellings are often tasteless and unpretending, but they are made beautiful by their surroundings.

(To be continued.)

A TRIP TO VINELAND, NEW JERSEY.

BY P. T. QUINN.

HAVE you been to Vineland? Do you intend going? Have you talked with persons who have been there? What have they said about it? Is it not an enormous swindle on the public, with a smart engineer who makes free use of printer's ink, and keeps the machinery oiled, and whose sole object is to make money? Those and numerous other queries, are constantly asked by persons who are searching for cheap homes in the country.

Having heard so many conflicting stories about this new settlement, I determined to go there and make a personal examination, to satisfy my own curiosity, and if as I was led to believe, it was a monstrous humbug, I would do all I could to place the matter before the public in its true light, and my object now is to state briefly what I have seen there on a recent visit.

I started from New York with a party of six gentlemen, and we reached Vineland late on the evening of October 27th. We drove from Hammonton in wagons a distance of 20 miles, which gave us a good chance of observing the character of the adjoining country, before the axe, grub hoe, and stump puller, were made use of. I flattered myself during this drive, that my convictions about Vineland would be fully confirmed, and that Mr. Solon Robinson had been hood-winked by the proprietor of the Vineland tract. Some time after our party reached the hotel, I accidentally met a friend whom I had lost sight of for the last three years, and who now is connected with Mr. Landis. I told him at once my impressions about Vineland, and said I understood every other man wanted to sell and get away from the place. He asked me on what terms a person would sell, who was "sick" of his bargain. I said if very much so, at half cost, and if only moderately tired, at actual cost; that is, the price paid for the land, clearing, cost of building, trees,

fences, &c., &c. He said if you find a man on this tract that will sell on those terms, I will pay you double the amount. I said it was a bargain, and early next morning two others started with me in search of persons who had been "taken in," but to our surprise we could find no such individual, although we walked more than eight miles. I had no difficulty in finding men who would sell, they invariably asked twice and three times the original cost; that is, if the entire outlay on a place was \$1,500, their selling price would be \$3,000 to \$3,800. I then made up my mind "sickness" did not prevail to any great extent on the settlement of Vineland. At first I thought Mr. Landis bought up all the "discontents," but on close inquiry and conversation with actual settlers, hailing from all parts of the country, I learned that the location, soil, and climate gave satisfaction.

After breakfast our party started in company with Mr. Landis and a number of citizens, to drive through a portion of this extensive tract, to witness what has been growing on the past two seasons preparations, for the coming and other novel features exclusively belonging to Vineland. To a stranger the place gives an impression of newness, which is in fact, true, but at once you wonder how so much could have been done in the short space of three years. Then a wilderness of pine and scrub oak, now a busy, bustling, thriving town, surrounded by a fine agricultural country. How to fully describe all I saw would be a difficult task in one short article, but I saw sufficient to satisfy me and each member of our party, that Vineland is not a humbug. And an industrious man, with moderate means, can do better in Vineland than to go to the far West in search of cheap and fertile lands for the following reasons: 1st.—He has the advantage of good society.

2nd.—He is close to a place of worship.
3d.—His children can be educated at a very small expense, and 4th.—He is within 30 miles of a good market for all his produce, with the prospect of having direct communication with New York at an early date.

This land appears to be especially adapted to the growth of small fruits, and just so soon as direct communication is opened with New York, this section of the country is destined to become the fruit garden of the Metropolis.

The strawberry is being extensively planted, and for the present the growers look to Philadelphia for their market. The same luxuriant growth of vine can be seen here as in Hammonton, and the settlers are beginning to learn that one acre of strawberries well taken care of, will pay more profit than three acres of potatoes, or five acres of common corn.

The soil is well adapted to the grape. We examined various lots on different parts of the tract, and in all cases were satisfied from what we saw, that the vine will be made a leading feature in this section, and the day is not far distant when Vineland will be as noted for extensive vineyards as Cincinnati, or other grape growing districts. This locality will have many advantages over other places in being so near New York, the best fruit market in the world.

The young orchards of pears, apples, and peaches that our attention was called to, give promise that the soil is equally adapted to large as well as small fruits. These trees, many of them planted last spring, have made a good growth, and would reflect credit on any soil or location. I was assured by many of the owners, that the trees received very little manure, in some cases none, and no extra care.

Cucumbers, melons, and sweet potatoes flourish in this soil, and as the season is two weeks earlier than the vicinity of New York, growing early vegetables for that market will become a profitable business.

On the south-east part of the tract, we were shown a field of common field corn, and after a careful examination it was argued that the yield would be 40 to 50 bushels shelled corn to the acre. Along side of this lot was a field containing 17,000 cabbages, looking very well, the heads firm and solid. The owner, whose name I have forgotten, settled three or four years ago, with only sufficient means to make the first payment on four acres, and build a cheap house to live in, but he persevered, and each year bought and cleared a little more land, until now he has 60 acres, tillable and entirely free from debt. He has devoted a certain portion of his farm to vegetables, for which he has a good market a few miles distant.

The rapidity with which Vineland has grown is quite surprising; it reminds a person of fairy tales. Three years ago a wilderness, and according to the census taken in July last, there was then 5,200 inhabitants, and if immigration continues for the next five as it has for the past year, there will be a population of 25,000 people. To give an idea how the place is being settled, I was assured on good authority, that from Jan. 1st, 1865, to January 1st, 1866, 1,000 new houses will be built on the Vineland tract.

Mr. Landis has already opened 160 miles of road at his own expense. This of course is a great advantage to settlers, as their time may be employed in improving their respective places instead of making new roads.

There are five public schools in successful operation, so that every resident can have his children educated at a very small expense.

In conclusion, I would advise persons in search of cheap lands to visit this section of country, and remain long enough to examine for themselves and witness what this sandy soil will produce even under very indifferent treatment.

NEW HYBRID PINK, "SARAH HOWARD."

BY PETER HENDERSON.

THIS valuable addition to our new plants was originated by A. G. Howard, Florist, of Utica, New York, who is well known as an accurate and close observer in all matters pertaining to Floriculture. It is something of a nondescript, evidently a hybrid between some white China pink and Carnation. From seed sown last March, 95 per cent. came double; they began to flower in August, and continued in wonderful profusion until October, when they were carefully lifted and potted, and are now literally covered with buds and flowers. The color is of the purest white, most symmetrical in form, fringed, and in the different varieties, (for there are many varieties), varying from 2 to 3 inches in diameter; as a white pink for winter blooming, in beauty of form and profusion of bloom, it will fill up a blank that has been long wanting. On some of the varieties as many as 200 buds and flowers have been counted on one plant.

Mr. Howard informs me that it is quite hardy even in Utica, where the thermometer occasionally runs down to 20 below zero. and that when struck from cuttings, or sown early, say in January, it will bloom continuedly from July throughout the season. There is little doubt but that it can be hybridized by colored varieties of the Monthly Carnation, when we may expect a rich treat from the opening up of a new class in this most beautiful tribe.



EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

THE NURSERY TRADE.—The results of the past year have developed some very curious examples of timidity in this line of business—a business that now stands on a broad and permanent foundation, and is as legitimate in its pursuits and results as any other business that can be named, and yet, by a very large number, evidently carried on with the momentary expectation that all demand will suddenly cease. The question was asked, upwards of twenty years ago, of a nursery-man who stocked an acre near Hartford, Conn., “Where will you find a market for all your trees?” and since then nurseries have gone on increasing in numbers and extent, year after year, and now the public are clamorous to know where they can find peach trees, plum trees, crab apples, quinces, evergreen seeds, Concord grape vines, and grape vines of all kinds. This kind of questioning is getting to be quite an important part of our correspondence, and we must decline answering it in any other manner except through our advertising columns. But the men who trembled the most were those who propagated grape vines the most extensively. They evidently thought that a small matter of two or three hundred thousand vines would glut the market; and the cut-throat game of seven or eight cents a piece for Concord vines was an evidence of fear by which the buyer profited largely.—Now, in the month of December, when prudent buyers are looking out for next spring, Concord vines are scarce at four times the price. We hear a great deal of talk about grape fever, but what does the whole of it amount to? About one of the most imperceptible things in existence.—How many farmers in all this broad land

have a single grape vine? Take all the acres of vineyard from the Atlantic to the Pacific coast, put them together, and how many townships in this State would they cover? Grow all the fruit, and make all the wine possible, and this city would call for more. This grape business is only in its infancy, and its progress will not end with this generation. How many farmers take an agricultural paper? Not one in ten. The balance know nothing—they don’t want to know anything—and it will take years to educate such men to know the difference between good grapes and poor ones; but it can be done. It requires persistent application. There is steady progress; we have full faith in it. The time will come when every one will not be satisfied with a single vine; they will require dozens and hundreds. What our grape vine propagators ought to do is to raise first-rate vines, then let the public know they have them for sale. Advertise boldly, liberally, persistently; keep at it week after week, month after month; spend your profits in printer’s ink; it will all come back in time, and a goodly fortune besides.

APPRECIATION OF HOME PRODUCTIONS.—100 Dollars for six Verbenas.—Dexter Snow, of Chicopee, Mass., sold last September, the stock, consisting of six single plants of seedling Verbenas, to Peter Henderson, of Jersey City. The varieties are of the Italian strain; striped, spotted and mottled, and have been brought to their high state of perfection, by the hybridizing of Mr. SNOW, who has devoted many years to the cultivation of the Verbena, and to whom we are already indebted for many of our leading varieties.

LYCHNI'S SENNO.—One of the novelties that will be issued in the Spring of 1866. It has been grown in England for the past three years, and figured in most of the illustrated magazines. In our brighter sunshine it will, no doubt, become more decided in its markings than in England. In specimens of it that we saw last summer in the grounds of Peter Henderson, the colors were clearly defined, scarlet and white striped, presenting a most novel and beautiful feature in this class of plants.

The plant is continuous blooming, and like others of the genus, will, no doubt, prove entirely hardy.

RECLAIMING DROWNED LANDS has become a branch of knowledge where the application of skill and industry is as sure of the promised result as in any of the demonstrable sciences. It has been a subject of interest in the early ages of the world, and experiments in this direction have been almost uniformly crowned with success. The histories of Rome, Holland, Russia, England, and indeed, of almost every country, supply innumerable examples of lands rescued from the dominion of the ocean; and the success of human skill in redeeming them is commensurate only with the patience and perseverance with which they have been applied. It is stated that the Bedford Level in England, once a waste, contains 300,000 acres of unreclaimed soil; the Romney Marsh, 40,000; in the counties of York, Lincoln and Cambridge, hundreds of thousands. In the county of Norfolk more than 30,000 acres, composed like the Bergen meadows, of muddy depositions left by the tides and floods, have been reclaimed; and from scenes of utter desolation display rich fields and gardens, yielding, in the fruits of the earth simply, from ten to fifteen per cent, on the capital invested. Holland is an instance on a grand scale. But it is useless to enumerate the enterprises in foreign countries which have been

successful. Many such have been made in our own land with a similar result. As, for instance, those marshes which formerly surrounded the "Old Milldam" in Boston, now reclaimed and occupied by solid, substantial, and in some cases positively massive edifices of brown stone. — *Journal of Commerce.*

THOSE of our subscribers who have the volume for 1863, by mailing it post paid to this office, can renew their subscription for 1866 with it.

AGRICULTURAL, HORTICULTURAL, ARCHITECTURAL, and other books can be had at this office, or will be mailed to any part of the country post paid, on receipt of price. Any book, paper, or periodical, on any subject, can be ordered through us. See our book lists; select all the papers, magazines, and books you wish, no matter in what section of the country published; send us a postal order or draft on New York for the amount, and the business will be promptly attended to.

WE send this number to all of our subscribers, with the invitation to those who have not yet renewed their subscription for 1866 to do so without delay. This volume will be fully illustrated, and we are constantly perfecting our arrangements, to give the best reading matter and instruction that the country will afford. In all matters of horticulture and rural art, we mean to make the HORTICULTURIST the best authority that can be consulted.

VOLUNTARY CONTRIBUTORS can aid us very much by choosing thoroughly practical subjects. We shall have to omit hereafter all articles that do not convey instruction of some kind. Essays, speculations, theories, &c., we consider of little or no value. The best and most valuable writers for the Press, those who command the highest price and the most readers, by nature or culture possess the faculty of expressing themselves in the least possible number of words.

PARTIES who have ordered Volume IV of "Rural Affairs," and "Cochrane's Farm Bookkeeping," cannot be supplied until some time during the month of January. The difficulty of getting paper is the cause of delay. We find it impossible to get our volumes for 1864 and 1865 bound as fast as called for, and the delay of a few days is from this cause.—After this week, we shall be fully prepared to meet the demand, though from present indications the volume for 1864 will soon be exhausted. Our number for November, 1865, was printed on foreign paper made in Bremen. Our regular supply of paper was delayed by the accident to the St. John, Bremen paper and only just enough for our edition was all that could be found in this market. With our best endeavors, we were fully ten days behind time. Publishers must look well into the future now if they need supplies of any class.

THE "GREELY PRIZE" Committee have given the premium to the Baldwin apple and Bartlett pear, as best adapted for general cultivation. The Committee were not unanimous.—The vote was four for Baldwin, and three for R. I. Greening. The Hubbardston Nonsuch was ruled out, as it was said the fruit would not keep in good condition until the first of February. The vote on pears was four for Bartlett, and three for Sheldon. The Committee then recommended six varieties of apples, and six of pear for general cultivation, to consist of two Summer, two Fall, and two Winter varieties. Summer Apples—Primate, Red Astrican. Fall—Porter, Gravenstein.—Winter—Hubbardston Nonsuch, Northern Spy. Summer Pears—Manning's Elizabeth, Rostiezer. Fall—Sheldon, Seckle. Winter—Lawrence, Dana's Hovey.

DEAD and gone! dead and gone! never more cans't thou come back to us, poor Old Year! What brave promises were thine? What weak fulfillments? There were violets that the night frosts withered; there were orchard blooms where never came fruit; there were rosy morning clouds that grew into tempests, and dews that congealed into hoar-frosts; there were

fancies that faded into nothingness before cold realities; there were hopes, and plans, and endeavors without fruition; there were loves that decayed into forgetfulness, or that ended in hatred, and good intentions that froze into hardness of heart.

Shall we lament thee, then, dead deceiver, hollow professor? Let us rejoice that thou art gone. But were there no good movings in thy heart towards us? Dids't thou really bring us no positive blessings? Sunshine made every day a glory; winds swept away the deforming tempests from the sky; some good desires were prospered, and worked themselves out into good deeds; some good will was transformed into action. The dark cloud of war has disappeared and peace smiles again upon our dear land; and if we remember, that during the whole time thou wert with us, Old Year, God did not once forget us; we have much to be grateful for. Let us, then, stand on thy grave with holy thoughts, and forgiving all thy short-comings, like a true friend, and weeping over our own, like a true christian, bury in oblivion that thou hadst not, and cherish in grateful memory that thou hadst't.

The year has almost fled;
Let's utter a prayer for the well-nigh dead;
Oh, eve and dawn!
Oh, night and morn!
Three hundred times ye have come and gone,
While round the fiery-featured sun,
One course our ancient earth has run.
For each bright day
Now swept away,
Wherein we wrought not,
Thought not,
Prayed not,

For the greater glory of Thee, our God;
Oh, let its record swift be trod
Beneath Thy foot, while we anew
Begin our lives with purpose true!
We come to bury the old and worn;
His brow is furrowed, his garments torn.
We write on his headstone—pause and see,
Where thou a twelve-month hence may be!
Toll for the dead,—toll for the dead;
The frozen earth is over his head.
Heaven pardon his sins, he meant so well;
Toll, toll the bell!

"I NEVER had any other desire so strong and so like to covetousness, as that one which I have had always,—that I might be master, at least of a small house and large garden, with very moderate conveniences joined to them, and there dedicate the remainder of my life only to the culture of them and the study of nature.

And there, with no design beyond my wall
Whole and entire to lye,
In no inactive ease and no unglorious poverty."

Cowley's wish is, like Pope's Universal Prayer, adapted to all sorts and conditions of men. How many thousand times, in each of the two hundred years since the *epistle to John Evelyn, Esq.* was written, has the same ardent longing been breathed by lips that pant to inhale the fresh breezes of the country, instead of the impure air of the town! Give me but a garden! is the aspiration sighed forth, with more or less of hope, in cities and in solitudes, by children and by their grandsires. From Punch's indication of the season, when to rake mignonette with a silver fork, pass to a sketch like this of an Australian explorer:

"Mr. Philips is rather singular in his habits; he erects his tent generally at a distance from the rest, under a shady tree, or in a green bower of shrubs, where he makes himself as comfortable as the place will allow, by spreading branches and grass under his couch, and covering his tent with them, to keep it shady and cool, and even planting lilies in blossom before his tent, to enjoy their sight during the short time of our stay."

All this industry repeated night after night, by a weary foot-sore man, merely in the hope to have something like the shred of a garden to look at on waking in the morning. Could there be a more touching expression of the "hortulan" passion which, whether latent, or in full action, remains, like hope, ineradicable from the human breast? It is a natural consequence, too, that those who cannot taste the actual fruition of a garden, should take the greater

delight in reading about one. But the enjoyment next below actual possession seems to be derived from writing on the topic.

"Had I not observed," says Sir Thomas Browne, in his *Garden of Cyrus*, "that purblind men have discoursed well of sight, and some, without issue, excellently of generation, I, that never was master of any considerable garden, had not attempted this subject. But the earth is the garden of nature, and each fruitful country a Paradise."

The love of flowers is a universal passion. As John Ray expresses it, "All the world are *philobotanoi*."

The most highly esteemed favor which the early missionaries at Tahiti could confer on the king and queen, was to furnish them each, on State occasions, with a specimen of that splendid novelty, the sunflower, to be worn in their dusky bosoms. The men of St. Kilder, who went to pay their duty to their lord, in the far southern island of Skye, could hardly proceed on their journey when approaching Dunvegan Castle, because, they said, the trees,—such beautiful things had never been seen even in their dreams—the trees kept pulling them back. Be grateful, then, ye who live in the country, in a temperate clime, and endeavor to enjoy your Eden truly, by fencing off every unhallowed intrusion, and by the remembrance that for you and yours there grows in the midst a tree of evil, as well as a tree of good.

VERILY, now-a-days, "the poor we have with us always." When I open a volume of poems, I prefer to find a digression from the ordinary talk of this weary working world; from rhythmical sermons and Dorcal Society addresses in verse. Do good with all your might, fervently, effectually, thoroughly, but do not talk about it all the time; at least, do not make poetry the vehicle in which you go about to trumpet your deeds. Alas! the old triumphal chariot, with its laurels, its milk-white steeds, and the clarion blast that heralded

it, is turned into a Connecticut pedler's wagon, with iron candlesticks, brooms and patent medicines inside, while a big tin dinner-horn announces its approach. The Muses have become Sisters of Charity, and tramp about with great baskets of clothes and phials. Mars is in prison for fighting a duel, and Bacchus, having suffered repeated attacks of delirium tremens, has joined the Temperance Society. Nimble-footed Mercury goes round with subscription papers; Venus has been sent to the House of Correction. The Graces have put on high-necked dresses, and write for the magazines; Juno has taken the management of an Orphan Asylum, and Jupiter has been elected to Congress to legislate for the Freedmen, Reconstruction, general reform, and woman's rights. Alas! for the good old times, and the romance of the old Mythology.

A YEAR is not only an astronomical, but a natural division of time. The first imperfect year of ancient times, must, no doubt, have originated from observing the regular vicissitudes of heat and cold, of the leafing, flowering and fruiting of the various tribes of plants; and the coincidence of these appearances with the laying and hatching of birds, and the production of the young of quadrupeds. This way of reckoning, however, was subject to so many variations, that it was necessary to make choice of some more constant periodical occurrence by which to mark the annual revolution.

The ancient year began in the month of March, and it may seem singular that modern civilized nations should choose to commence their year at a period when nature lies almost dormant, in preference to that season when the race of vegetables and animals is actually renewed. In defence of the present custom, it may, however, be said that the time of the renovation of nature varies in different countries, and is affected so much by accidental circumstances, as to preclude the possibility of an

exact calculation; that now the year does not commence till ten days after the winter solstice, and that the lengthening of the day, as it is the chief cause, so in fact, it is the commencement of the spring.

So little influence, however, has this change at first, that the month of January is usually found to be that in which the cold is most intense.

It used formally to be a subject of much dispute among natural philosophers, whether frost was a particular substance, or merely the absence of a certain degree of heat. The latter opinion is now most generally entertained. The little hooked salts, or spiculæ, which in frosty mornings are found floating in the atmosphere, or adhering to the surfaces of bodies, being found by experiment to be nothing more than small crystals of ice, capable of being resolved by heat into pure water.

The process of congelation is curious and interesting, and it may be that the laws which govern it are too familiar to need repetition. It is well known that water, when frozen, is expanded, and occupies more space than it did before, and hence, that ice is lighter than water, and swims upon it. If a bottle full of water, tightly corked, be left to freeze, the bottle will be broken for want of room for the expansion of the water while assuming the solid form. Water-pipes often burst from the same cause, and hoops fly off from barrels; and in the intense frosts of the northern regions, cannons and bomb shells filled with water, and the apertures strongly plugged up have, in the course of a few hours, been burst.

The explanation of this is, that in the process of the congelation of water, needle-like crystals are formed, which unite to each other at angles of a certain size; hence the space between these crystals is much more considerable than between the particles of water; and on this account, water, when frozen, occupies more space than before, but with no increase of weight.

This same property of water, when frozen, tends every year to diminish the height of the Alps and other lofty mountains. The fissures and crevices become filled with water during the summer, which is frozen in the winter, and by its irresistible expansive power, detaches huge masses of rock from the summits of the mountains, and rolls them down into the valleys below, to the terror of the inhabitants.

In its more moderate and minute effects, the operation of this general law is productive of a very beneficial consequence to the gardener or husbandman. For the hard clods of the ploughed lands are loosened and broken in pieces by the expansion of the water within them when frozen. The earth is crumbled and prepared for receiving the seed. Hence the reason and the utility of trenching our gardens in the autumn before the frosts set in.

THAT must be a cold and forlorn heart that does not love flowers. While reading, the other day, in one of our dailies, of the magnitude of the trade in cut flowers, in the city of New York, we were reminded of the following little poem, which was written several years since by one who dearly loved flowers, and knew them well, who has since passed from the enjoyments of the delightful associations of earth, to the higher and purer enjoyments of the "Courts above":

More flowers, more beauty in my path,
More light along my way;
A deeper hue the sunshine hath,
A richer glow the day;
And every breeze that sweepeth by,
Speaks with a gayer tone,
And beareth with it perfumes rare,
Which these sweet flowers have strown.

Ay, bring them forth into the sun;
They were not born to be
Hidden away from mortal eyes,
What joy such flowers to see.
Bring crystal water-drops to fling,
Like pearls upon each leaf;
So let them rest in yonder vase,
A green and golden sheaf.

FATHER! who gavest these gems to shine,
These buds in bliss to grow,
What must adorn Thy courts above,
If such are found below?
They say that there e'en rainbow hues
Are pale and dim to see;
Then what, O FATHER! dyes Thy flowers?
What must their radiance be?

THE glorious and genial autumn has passed, but the remembrance of its bright golden days comes back to us by the winter fire-side, like the memory of the sweet fragrance we inhaled in the leafy months which are gone. Of all the delicious states of feeling that ever cross our monotonous pathway,—said the gentle friend whom we have just copied—commend me to a woodland reverie in a sunny day of autumn. To sit on the warm green turf, just at the edge of a noble old wood, and feel the grateful glow of the unclouded sunshine, while the rustling of the leaves is in your ears; to watch the slow, rocking descent of one brown leaf after another, and listen to the quick droppings of the acorns, each with its own distinct little crashing; to hear the short, satisfied chiripngs of the numberless small birds that swarm on the bushes, each bush bearing a double burden of berries and of birds; to note the ceaseless labors of the wild bee and the ant, the busy crickets, the careful butterflies; yet neither to think, moralize, nor meditate upon either of these in particular, nor upon other things in general; but merely to exist, conscious that you are somehow remarkably well-off,—and not very certain how it came about. This is a true woodland reverie.

CONTRAST this *dolce far niente* condition of the writer with the positive, outspoken feeling of discomfort and dislike of the same, for the inhospitable winter, the glittering snows, and the glaring, treacherous ice of our northern climes.

But such weather as we have! Oh, that it was blotted out of the almanac! First snow, then hail, then rain, then "splosh," keeping me in the house all the time. The

cold has, for the last three days, been terrible, and the suffering among the poor, great. How I dread the winter and the snow; I never loved it. It is so cold, so glittering, so shroud-like. I think of the earth as one great charnel-house, wherein decay jostles the dead with rudeness. I feel the slow procession of the hours, as separately they pass along in one vast funeral train. I fear the snow, for it turns to a blank all the beautiful book that the south wind and the west wind, and the warm rain opens for us to read. It frightens all my little lovers, the ground-sparrow and the tree-sparrow, and the katy-did, and the bee, and it hides all the summer-brooks so deftly that none can find them, save sweet spring, and she sleeps. Why should I love the snow? I am faint and shivering when it falls upon me, and I loathe the heavy garments I must don. When I fold away the pretty adornings that are fitted to the season of the morning-glory and the sweet-pea, when I consign to the dark wardrobe, the transparent scarf and the pearl-white dress, I wrap up in their foldings many a tear that will fall, despite my womanly courage. May it please God, I die not in the days of the hoar-frost and the black-frost, of sleet and white driving snow! I should leave the world gladly, forgetting to thank heaven for its beauty and exceeding loveliness. I should stretch out my hands towards the bannered golden city, builded of emerald, and amethyst, and sapphire, forgetting that even with such had my pathway here been paved. I should lie impatiently on my sick couch, "bidding my time." I would listen for the melody of the rapt seraphs near the throne, not remembering that the Lord had prepared

richest music for my ear many thousand times, when I had not even prayed for it. I should say, "Thank God, I die!" rather than, "Bless God that I have lived."

(Incapacity,) like murder, "will out." Some say the defect is in my head.—I think it is in my heel, where there is such a shocking chilblain. I think Thetis must have plunged me in the Styx, as she did Achilles, all but my heel by which she held me, and that this spot is the only one vulnerable to Jack Frost.

I have had only one sleigh-ride this winter. Judge whether it was a joyful one when it led me to a hovel where an insufficiency of lights, fire, food and clothing made winter dreadful. You know I hate sleighing, and snow, and ice, and all other manifestations of cold weather. When I am queen, in my realm there shall be no winter, but one long, golden, glowing summer. There shall be a perpetual shower of rose leaves on *my* grass, and the poplar leaves shall be the only creatures to shiver all the year round. There shall be a violet-colored twilight to last all night, and sweet south winds in the morning. I am a summer child, and true to the season that gave me birth. How can you like snow? It is so unmeaning, dead, stifling. I would rather see the coarsest brown furrow in dear mother earth's wrinkled face, than all the brilliancy of frost, and ice, and snow in which poor shivering mortals rejoice.

The EDITOR'S TABLE closes this month with cordial salutations to the readers of the HORTICULTURIST; A MERRY CHRISTMAS and a HAPPY NEW YEAR. Till we meet again, *Salvete et Valet*.

CORRESPONDENCE.

ITHACA, N.Y., December 6th, 1865.

MESSRS. EDITORS—The great Agricultural College of the State of New York, with its magnificent endowment of half a million of dollars, distinguished by the name of its

founder, and known as the Cornell University, is fast developing into a reality. Architects and committees are now considering and preparing plans of the buildings which are to be erected, and the opening

spring of 1866 will witness the hum of the busy artisan and laborer laying the foundations. The present arrangements contemplate the erection of five principal college buildings in the foreground, upon an elevation of about 150 feet above the level of Cayuga Lake, commanding a fine view in a northerly direction for thirty miles over its surface, and of the village of Ithaca, "its lovely valleys, and its hills of green," in a south-easterly course. The situation selected is one of surpassing beauty.

On the north and south, at right-angles from the college buildings, forming two sides of a hollow square, will be erected the dwelling-houses for the professors, which will ultimately furnish accommodations for upwards of one hundred families; while in the rear, and upon higher ground, are the sites for the observatory, President's mansion, &c. The approach will be by well-constructed roads, curving by easy grades, so as to reach all parts of the plateau with facility and comfort. The grounds thus enclosed will be ornamented and planted after the plans of the most skilful horticultural and landscape engineers. Upon the college farm adjoining are already enough farm buildings for immediate use. These will be increased with all modern improvements as they are needed. The plans of the horticultural buildings are yet in embryo, but it is understood that they are to be in keeping with the whole design, and will be of the best character. The model horticultural farm of Mr. Cornell is situated on Crowbar Point, about seven miles distant on the west bank of the lake, consisting of nearly four hundred acres, with a south-easterly exposure. This is already planted with the best well-known varieties of fruits suited to the locality, and others of declared merit are on trial. These orchards and vineyards are under the charge of a competent horticulturist, and here the student can practically acquire knowledge, while comparing the teachings of McIntosh, Loudon, and Van Mons with actual results on American soil. The water of Cayuga Lake is a deep spring, which does not freeze over in the severest winters; and this has

a meliorating influence upon the climate.— Here the delicate peach ripens without failure, and here we may expect one day to drink the delicious Gunyardo* wines, rivaling the "delightful poison" of Jerusalem.

Ithaca will hereafter be known by its literary institutions and its literary society, attracting people of refinement and taste, many of whom will seek a residence here for the enjoyment of kindred fellowship, and for the education of their children.— And here the denizen of the city may retire from the unhealthy summer atmosphere, or avoid the approach of the cholera, locating himself on the borders of a lovely lake, among the finest scenery, with romantic walks and rambles among numerous waterfalls, and through ravines of the wildest beauty ‡ with which this country abounds; botanizing, mineralizing, or enjoying the country sports—driving, fishing, rowing, sailing, &c.; avoiding or inviting society at his own pleasure.

W. A. W.

* Poetic Indian for *Crowbar*; probably by the same student who consulted the "Old Authors" to find the Indian name of Cayuga.

‡ Nearly one hundred of these picturesque views have been photographed, embracing some of the finest stereoscopic views of American scenery.

ROCHESTER, N. Y., Dec. 4, 1865.

GENTLEMEN:—

In your December number, a correspondent "C," writing from Pittsburg, enquires about Rea's Seedling Quince, and says he had written to us for it, but we knew nothing about it. This is a mistake. We have grown Rea's seedling quince extensively for more than 10 years, and sold both at wholesale and retail during all that time.

We have some 20 large bearing trees of it in our specimen grounds. We consider it the best of the quinces. The Chinese quince your correspondent refers to, is not grown in this country for its fruit, but for ornament, and rarely produces fruit.

Yours,

ELLWANGER & BARRY.

DETROIT, MICH., Dec. 9, 1865.

MESSRS. WOODWARD:

Gentlemen,—The November number of the *HORTICULTURIST* was not handed to me until that for December came. In answer to G. S.'s enquiry, I will say that we always planted the bulblets of gladioli in the spring ensuing their gathering, at the same time as planting the large bulbs.—They generally come up, but I have no doubt that they can be kept for eighteen months, and possibly longer, as these bulblets, physiologically speaking, are nothing but seeds. It is also possible, that by being kept over, their germinating qualities are perfected.

We have seeds that generally fail to grow the first year after gathering, as we have plants, the qualities of the blooming of which are increased by keeping as long as possible.

I shall take pleasure in sending you designs for the premiums.

E. FERRAND.

RESOLUTIONS OF THE OHIO STATE POMOLOGICAL SOCIETY ON THE DEPARTMENT OF AGRICULTURE.—The following resolutions were adopted unanimously by the Ohio Pomological Society, which has just closed its session in this city:

Resolved, That we feel deeply interested in the great Department of Agriculture connected with our Federal Government; that we desire its entire success, and believe it destined to contribute immensely to the advancement of Agriculture in the country; that we earnestly entreat the President of the United States to appoint a competent man to be the head of the Department of Agriculture; the incompetency of the present incumbent being a source of general remark and complaint from the intelligent agriculturists of all parts of our extended country. It is therefore

Resolved, That in the opinion of this convention, a change in the head of the Agricultural Department is imperatively needed

for the best interests of the producing classes of the country, and the President of the United States is most respectfully petitioned to listen to the complaints embodied in the foregoing resolutions.

(Signed,) JOHN A. WARDER,

President.

M. B. BATEHAM, *Secretary.*

OFFICERS AND DIRECTORS of the Milford and Orange Agricultural Society, elected at the annual meeting, held Nov. 7, 1865.

OFFICERS:

David Miles, *President.*

Elber J. Treat,

Caleb T. Merwin,

Elisha E. Benhan,

Wm. H. Pond, *Secretary.*

Charles F. Smith, *Treasurer.*

DIRECTORS:

MILFORD.

ORANGE.

Wm. S. Pond,

Enoch Clark,

Isaac C. Smith,

Isaac A. Smith,

Chas. S. Baird,

Dennis Andrew,

Geo. Cornwall, 2d.,

Merwin Andrew,

Miles B. Merwin,

Albert F. Miles,

David B. Platt,

Nelson Tyler,

Wm. M. Merwin,

Geo. S. Kelsey,

Elijah B. Tibballs,

Leveret B. Treat.

Joiah P. Isbell,

Jay L. Northrop.

BOOKS, &c., RECEIVED.

COMPANION POETS for the people in illustrated volumes. This series contains popular selections from the best American and English poets; each volume of about 100 pages and 12 to 20 illustrations by the best artists. The volumes are handsomely printed on tinted paper, and bound in neat pamphlet form,—price 50 cts. each. Thus far have been issued:

Household Poems, by Longfellow.

Songs for all Seasons, by Tennyson.

National Lyrics, by John G. Whittier.

Lyrics of Life, by Robert Browning.

Humorous Poems, by Oliver Wendell Holmes.

Other popular poets will be added to the series.—Messrs. Ticknor & Fields, publishers, Boston.

OHIO FARMER.—Cleveland, Ohio, weekly, \$2 50 per annum. The Agricultural Department of this paper is presided over by Col. S. D. Harris, one of the most industrious and popular writers on agricultural subjects. He keeps himself thoroughly informed, by travel and otherwise, of all that is new and interesting. We commend the *Ohio Farmer* as a paper that can be read with profit by the farming community in all sections of the country.

THE PRAIRIE FARMER.—Weekly; Emery & Co., Chicago; two dollars per annum. This is a wide-awake journal, representing the agricultural interests of the Great West, now entering on its twenty-sixth year. It is the intention of the enterprising publishers to come out in a new dress. We notice they have secured some of the leading writers on agriculture and horticulture, and mean to maintain a high standard. They also propose to publish monthly a German edition of the *Prairie Farmer*, the first number of which is now ready; two dollars per annum. See their advertisement.

ATLANTIC MONTHLY.—To those of our readers who take this valuable periodical it is quite unnecessary for us to say anything. Few who know its value are willing to live on without it. Those who can be induced to take it may place implicit confidence in our recommendation. We lead no one astray by calling their attention to this very valuable publication, price four dollars per annum, and well worth the money. Ticknor & Fields, Boston.

We notice, also, that Messrs. Ticknor and Fields announce a new literary weekly, to be called *Every Saturday*. Well, they understand precisely the art of making money in periodical literature. It is simple enough; this is all of it: publish a first class paper, employ the best talent in the country to write for it, and let the world know it, that is, advertise.

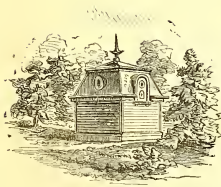
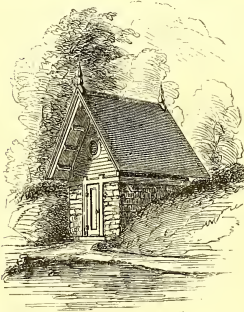
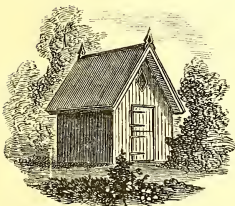
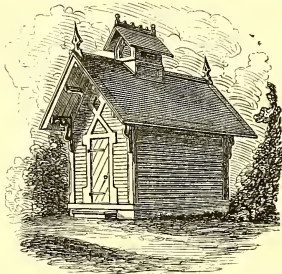
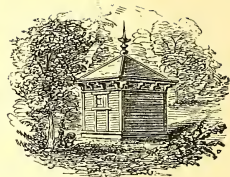
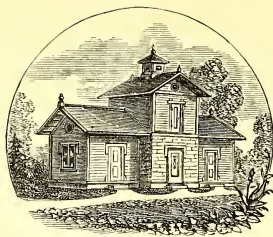
OUR YOUNG FOLKS.—The New Year begins the second volume of this completely successful magazine. The first six months of its publication it obtained a circulation of upwards of 50,000, proof enough of its popularity. It is decidedly the best of all the magazines for the young, and one that deserves a universal circulation throughout the length and breadth of the land. Two dollars per annum; with the *Atlantic*, five dollars per annum. Ticknor & Fields, Boston.

HOURS AT HOME.—A popular monthly, devoted to religious and useful literature, edited by J. M. Sherwood, published by Chas. Scribner & Co., No. 124 Grand St. New York. Three Dollars per annum, with the usual discount to Clubs.

This magazine, now in its second volume, bids fair to become a popular standard and welcome addition to the magazine literature of the country. It is ably edited, articles, well arranged and varied, and the publishers rank among the solid men of this city.

HARRIS' RURAL ANNUAL, now owned and published by Orange, Judd & Co., will be sent immediately after publication to those who have ordered them.

DEPARTMENT OF AGRICULTURE Report for 1864.—We are indebted to James S. Grennell, Esq., late chief clerk of the Agricultural Department, for an advance copy of this report. The great value of these reports of late years, is attributable mainly to the talent and industry of Mr. Grennell, a gentleman of rare ability in all matters pertaining to agriculture, and whom we hope to see placed in the position he is better qualified to fill than any other man in this country,—that of Commissioner of Agriculture. So important are our agricultural interests, and so vast is the influence of the agricultural bureau for good or evil, that the removal of Mr. Grennell from the position he so ably filled, can only be considered as a serious loss to the country.



DESIGNS AND PLANS FOR

ICE HOUSES,

Prepared for the HORTICULTURIST, Feb., 1866.

THE HORTICULTURIST.

VOL. XXI.....FEBRUARY, 1866NO. CCXXXVI.

THE FIRE ON THE HEARTH.

AT THIS present season of the year, we may well turn our attention from without to within doors, and see by what means we may contrive to make the country home more attractive not only to its inmates, but to the stranger within its walls. And here at the outset, let it be well understood that our suggestions are intended for those who not only live in the country, but whose tastes and predilections are decidedly for rural life. We are writing not only for those who are obliged from circumstances to live in an humble manner, but for those who, with ample means, prefer real solid home comfort to pretence and empty show.

As we can often form an opinion of the character of a man, from the expression of his countenance, so, not unfrequently, we are able to judge, from the exterior of a country dwelling, what may be the character of its internal arrangement, and what may be the peculiar tastes of its occupants.

Some homes are so cold and forbidding in their external aspect, that it would seem as if no amount of cheerfulness could ever light up their hearth-stones; while others habitually wear such a smiling and benignant expression, that we long to cross their thresholds and make ourselves familiar with every nook and corner they contain; and is not this the case with old country houses? Is not this their peculiar characteristic? We rarely see one that it does not awaken ideas of true home comfort, which a more modern structure fails to impart; and we think this feeling is common to all persons of cultivation, more especially if they possess strong rural tastes. No matter what may be the peculiar architectural arrangement of the house, if time has mellowed it, this home feeling is almost sure to spring up at first sight. It may be the Gambrel roof, with or without its quaint balustrade; it may be the old New

England mansion, with its two stories in front, and its roof sloping almost to the ground behind and overshadowed by some venerable elm; or it may be the humble red farm-house, with its moss-covered roof. If these old dwellings possess so winning an exterior, in most cases we are not disappointed on entering them. We shall find that everything within comports with that air of quiet ease and comfort which is inherent, and to which no one thing contributes more than the open chimney place with its blazing wood-fire. The sight of this makes us perfectly at our ease—we want no more cordial welcome; and herein lies the essence of our present paper—the importance of the fire on the hearth, as a means of imparting health, cheerfulness and sociability to the inmates of the dwelling.

Let there be one room at least in every home, where the family, particularly if there be children, can gather around the chimney place, and watch, as they sit musing or talking, the flitting flame of either the hickory log, or, for lack of that, the bituminous coal; and by all means, let that fire-place be generous in its size—not, perhaps, so capacious as to allow all to sit within its very jaws, and to look up at the bright stars of heaven shining down from above—such a one we remember, years ago, in a rude cottage in the wilds of Maine, where we passed a night—but still ample enough for a good-sized log to be rolled behind and committed to its bed of ashes.

It is not often that we now see those rousing wood-fires of a former generation. They are no longer an actual necessity. Modern science has introduced many other methods for warding off the searching blasts of winter. The screens that were set up at our backs, as an additional means of attaining warmth and comfort, have now been folded up and laid aside. The innumerable logs of wood, usually sawed in the hottest days of July, by men who were part and parcel of the saw, and who never tired, however long and hot might be the day, are rarely wanted now. The large

stout leathern apron, with its convenient handles, by which the wood was carried to the fire-place, is no longer called for.

Our thoughts wander back to youthful days, and we call to mind a bar-room wood fire of a country inn in New Hampshire—a fire which never slumbered night or day through the cold season, and which was always ready, with its more than genial warmth, to welcome the shivering stage-passenger.

No one of the rising generation, we venture to say, ever saw such a fire upon the hearth—its huge logs piled one above the other, and sending up such volumes of flame that no near approach was possible. That fire has gone out now, and a cold, black funereal stove has usurped its place. So, too, have gone out the liberal wood fires of our fathers' kitchens, before which were roasted such ample sirloins, and over whose living coals such savory steaks were prepared.

But if these open fires are no longer a necessity as a means of affording warmth, are they not necessary as promoters of ventilation, cheerfulness and gladness in the household? We may easily decide this by comparing the atmosphere and cheerfulness of a room lighted up by a bright blazing fire, and one heated only by a furnace or by a closed stove, with every means of obtaining fresh air carefully cut off. No matter how high may be the temperature of such a room, if we enter it upon a cold day, and see no open fire, an involuntary shudder comes over us—more especially if no rays of sun-light enter to dispel the gloom.

How pleasant to those who dwell in cities, and who never know the brightness of a fire on their own hearths, is the recollection of the cosy wood-fire over which they sat in those frosty evenings of early autumn, following the bright, clear sunny days, in the distant farm-house among the mountains or by the sea-shore! The thoughts and aspirations of those happy hours will be far more lasting than the embers by the light of which they were kindled.

Let every man, then, who builds or occupies a house, particularly if it be in the country, see that he has at least one open chimney place or grate for either wood or coal. If he has any desire that his children should ever have happy associations with home, and that in after years their thoughts should revert with pleasure to the scenes of their youth, let the family fireside be something more than a name. If it be in any way practicable, let there be an open fire-place in every room in the house as a means of ventilation, especially in case of sickness; and in the chamber, what can be more genial or more conducive to that quiet repose which we seek, than watching the fire-light flashing upon the ceiling; and in the tedious hours of illness, what a friend and companion is this same fire-light.

Does not delightful Irving tell us that it was by the light of the open fire that the bold dragoon saw, as he lay snug in bed, the movements of the portrait, and although we may not desire to see anything so terrifying, it is at such times that portrait and picture exert a new influence upon our imagination, however familiar they may be to us. Yes, we should willingly part with many a luxury before we relinquish what we consider a necessity as well as perhaps a luxury.

In the construction of the fire place in the country house, good, even, well-burnt bricks answer every purpose, not only for the back and jambs, but also for the hearth. Soap-stone as well as freestone are now, however, widely used, and in point of elegance are, perhaps, to be preferred. Tiles of various patterns and colors make very pleasing hearths, which we in every way prefer to marble. If the old Dutch tiles can be procured, let them by all means adorn the fire-place. Your children will form strong associations with their quaint illustrations of Scripture. If they already

exist in the old house which you have purchased, consider them as sacred.

In the majority of country dwellings, particularly if they have any claims to antiquity, we should advise the use of wood in the construction of the mantle-piece. It seems far the most appropriate article for the purpose—certainly, much more so than marble. The wood may be chestnut, oak, walnut, butternut, or even pine, and it should be simply rubbed down and polished, but never varnished. The mantel-shelf should be deep and capacious, so that the articles placed upon it may not easily be thrown off. It is often, as we well know, a temporary resting place for almost every thing which goes astray; we should not forget to mention those necessary accompaniments to the open fire-place, and which are so intimately associated with it, the andirons, formerly iron, or of highly polished brass or steel, the more or less elaborately constructed fender, and the ever useful bellows.

Where, from any cause, an open fire-place in the chimney is not practicable, its place may be supplied by the open grate set out into the room, constructed either of soap-stone or of iron. Those known as the Franklin Grate answer an admirable purpose, or, perhaps, still better, those manufactured in Philadelphia, of which the Editors of the *HORTICULTURIST* speak in their columns.

The closed stove and the furnace are well in their places. As Americans, we must have them, and we confess that they are often extremely convenient and useful, but they should not monopolize every room. If we value the health which good air, cheerfulness, and abundant ventilation are sure to give us and our children, in one apartment at least let us keep up a bright fire on the hearth.

Chestnut Hill, Dec., 1865.

REMODELING OLD BUILDINGS AND GROUNDS.

BY GEO. E. WOODWARD, AUTHOR OF "WOODWARD'S COUNTRY HOMES."

THE farm we own and occupy consists of twenty-four acres of handsome upland, lying upon the great broad gauge Erie Railway, ten miles from the business centre of the commercial Metropolis. Twenty-two acres are in grass for pasturage and hay, and the balance is devoted to ornamental grounds and garden. We show, in Fig. 6, the plan of two acres about the house at time of purchase, which by a former owner had been fenced into seven different enclosures, in accordance with the prevailing taste.

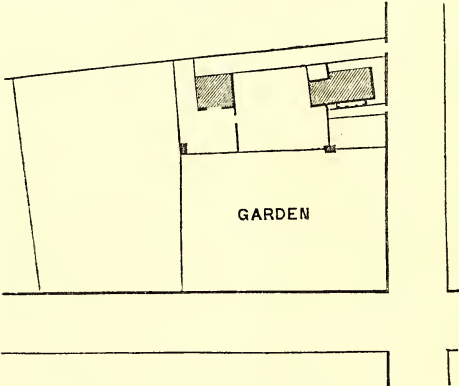


FIG. 6.—Original Plan of Two Acres.

The house is quite close to the road, which is some six or eight feet lower than the grounds. This we propose to treat in such a way by planting as to make the existence of the road unnoticeable to one sitting on the verandah, except, perhaps, by the rattle

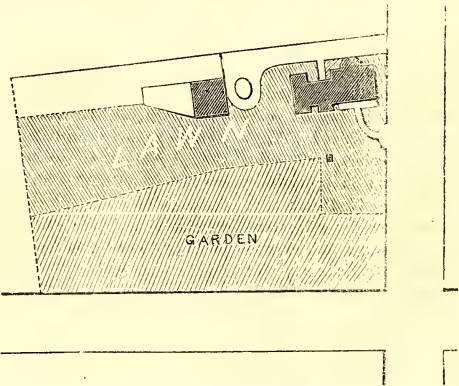


FIG. 7.—Plan of Two Acres improved.

of a passing vehicle. The house faces the south-east, and the slope is gradual to the cross-road in front of the house. The garden spot, in location, protection, and exposure, is perfect, and its products, in quantity, quality and appearance, not to be excelled.

as altered; with all fences removed. The effect of this was to increase the apparent size and extent of the grounds. The darker shade on plan represents the part devoted to lawn and ornamental planting, and the lighter shade the fruit and vegetable garden. The fruit garden lying next the lawn.

In Fig. 7 is shown the plan of the grounds

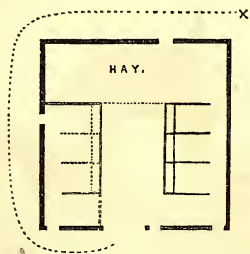


FIG. 8.—Old Plan of Barn.

The old barn, 36 feet square, built in 1806, again covered forty years later, is still a thoroughly substantial affair. The old mode of getting to it from the road was to drive around three sides of it. We changed the plan of it so as to go direct. See Fig. 8 and 9.

The removal of the barn-yard, poultry house, etc., from the front of the barn and out of sight of the house, was one of the most effective improvements. These

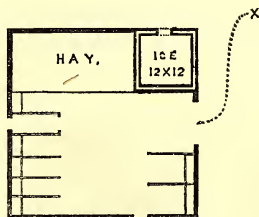


FIG. 9.—New Plan of Barn.

enclosures which now hide all wood-piles, wagons, compost heaps, rubbish, etc., are entirely out of way of the orderly neatness of the dress grounds. The fence on the left divides the lawn and garden from the pasture; this fence, being a light one, does not obstruct the view, so that the lawn, apparently uniting with pasture and hay lands, gives great extent of view. The surplus of the garden is easily fed out to the cattle in adjoining pasture.

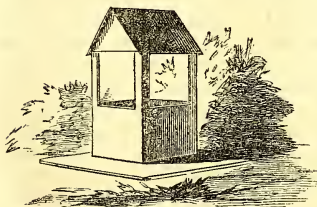


FIG. 10.—The old Well House.

The old well, built of cut stone, and laid up at a time when work was done honestly, stands about 30 feet from the front of the house. The old well-house is shown in Fig.

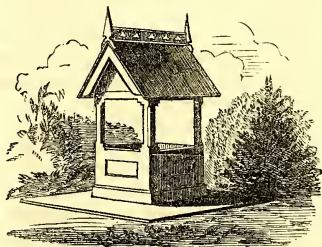


FIG. 11.—The old Well House improved.

10, and in Fig. 11 we show what we did to it at a total expense of four dollars in these high-priced times.

Directly opposite the end of the verandah was the small entrance gate, as shown in Fig. 12. The path from this gate led straight to the corner post and along the edge of the platform. This point of entrance we removed twenty feet, and now approach the house by a curved line of

walk. Fig. 13 shows the style of entrance we have planned for erection in the spring. For this we are indebted to the serviceable hints of the accomplished author of "My Farm of Edgewood" in the valuable illustrated articles from his pen, for which see volume of the *HORTICULTURIST* for 1865.

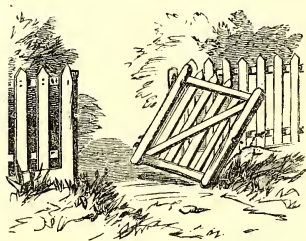


FIG. 12.—*The old Gate.*

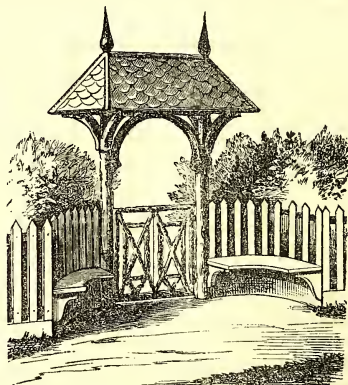


FIG. 13.—*The new Entrance.*

It must not be supposed that in the short space of eight months all these changes have been completely finished, but the heavy work has been done, and a season or two must elapse for the new planting to develop itself and the twining vine to add its beauties to the different structures. Other alterations and improvements are being studied out, which at some future time we shall illustrate.

The question might be asked us, why not put these 24 acres into small fruits?—tomatoes, nursery stock, etc.,—would it not pay better than for hay? We answer decidedly, yes, the income could be made a very large one; but farming is our amusement. Our business is to make and publish the best Horticultural and Rural Art Magazine in the country, and we make farming pay in this manner. The labor is reduced to the capacity of one man; the hay lands require

top-dressing in winter, and by machinery the crop, when ready, is quickly harvested and stored, with extra assistance for a few days; the garden is cultivated to its utmost capacity, and horses and cows are fed from the products of the farm the year round.

A house of similar capacity (see Jan'y No.) in New York city, would cost us an annual rent of \$1,500. The interest on the cost or capital invested in our farm and the expenses of labor in working it, amounts to \$1,500. Our profit consists in family supplies and comforts, as follows:—Milk, butter, eggs, poultry, summer and winter vegetables, fruits, fire-wood, water, ice, the keeping of, and attendance on a span of horses, increase of stock, etc.—items which in New York would cost at least \$1,500 to \$2,000 per annum. Add to this the annual increasing value of the farm, amounting to fully 20 per cent., per annum,

and it has been more than this for three years past, and it shows how we make farming profitable—a queer way of reasoning, some might say, but nevertheless

a true one for us. It pays well to own and hold on to a farm near a great city, if it is but 24 acres.

Wayside. N. J., January, 1866.

DISCREPANCIES OF THE GRAPE CULTURE.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

NOVICES are by no means useless creatures. One can rarely encounter them, whether in politics, mechanics, or horticulture, without learning something, either from their acquisitions or their crudities.—Taking position with them on the grape culture, I admit my experience to be limited, though my crudities are extensive. The doctors of the art may learn nothing from the latter, yet they will be courteous enough to bear with me while I set them forth.

Touching the planting of grape vines in swampy ground. I have a meadow just reclaimed from the dominion of a thousand springs, which had no outlet until a ditch, 800 feet in length, was opened for the exit of their perpetual overflow. Under-drains, laid down 30 feet apart, stretch away from the ditch into the upland, and have so redeemed the soil that what was once a worthless jungle is now productive land, yielding crops of turnips, corn, and strawberries.—On both sides of this miraculous ditch two hundred vines of Delaware and Concord grapes were planted, just two years ago. The soil below them is pure muck, several feet in depth, covered by at least six to eight inches of sand, placed there to raise the meadow to a proper level. Repeated plowings have so thoroughly combined the muck and sand that the dark color of the former now predominates over most of the surface. This whole field is mellow as an ash-heap, nor does it ever suffer from drouth. All stagnant water has been banished by drainage, hence it is into living water only that the vines project their roots.

These rows of vines have been subjects of

innumerable remarks from visitors, many of whom were experts in the grape culture.—Quite a number declared they would be a success, and quite as many that they would be a failure. But they were planted in the swamp as much for ornament as for use, hence it was not especially important whether they succeeded or failed—they would become an imposing feature in the landscape, even if they produced no grapes. But they have grown prodigiously, the Concords at least, and last season bore a reasonable crop. Those where most sand was laid upon the muck, have outstripped such as received none. They have made a profusion of wood, but only one or two of the Delawares have grown with any degree of vigor; the soil may be right for Concords, but wrong for the Delawares. I can discover no sufficient reason, as yet, for believing that this moist location will prove unsuitable. No mildew attacked either variety—in fact, I never saw a case of mildew—but the leaves of nearly all the Delawares were skeletonised by insects.

A friend writes me from Pennsylvania—"I always thought that *moisture* combined with heat was the cause of mildew. When we have a dry spell in July and August, then my grapes always do well, ripening perfectly, unless it becomes wet and *cool* in September. Now, at Boston they had heat and aridity, yet they also had much mildew. All over the West they complain of rot and mildew; even at Kelly's Island, where the Catawba rarely fails, this year they had rot and mildew. I now know less of the requirements of the grape vine than I thought I did forty years ago. Mr. Saun-

ders, foreman of the Propagating Garden at Washington, for a long time contended that aridity was the cause of mildew, then wavered, and confined his remarks about aridity to the exotic grape, gooseberry, and certain other exotic plants, now says that humidity is the cause of mildew on our native grapes, and by a covering to keep off moisture from the foliage, we can entirely prevent mildew."

The same intelligent correspondent is confounded by certain unexplainable discrepancies which he witnessed during the past season. A friend of his, five years ago, planted three hundred extra quality Delawares, which cost him \$400. The ground in which they were planted was trenched two to three feet deep, and the best culture was bestowed upon them. This last season, instead of tons of grapes, there were not ten pounds of perfect bunches. The leaves were all off by the middle of August, and no new wood for the next year. Other varieties were in equally bad condition.—While these out-door grapes were thus a total failure, yet on the same soil, without extra preparation, a grape-house containing many foreign varieties were in perfect health, bearing abundance of perfect fruit. At the same time, and on the same farm, the Isabella, Concord, and Catawba were bearing largely, free from defects, no mildew, fruit ripe a week or more earlier than at other places, and yet these vines are growing in water! He says—"There are some twenty or more large vines planted along a water-course, some of them surrounded with water, most of their roots *under* water the whole year. Some are close to the spring-house, on a strip of soil two feet wide, water all round, and undermined with muskrat holes. The soil is sand, gravel, rocks; never has been trenched, drained, or cultivated. There is a close sod of grass, which is mowed two or three times every season. The man simply dug holes to thrust in the plants, put up a trellis eight or nine feet high, ties up the vines,

and takes off loads of fruit for market every year. Nature does all that the vines require. Here were the finest, largest, and most perfect and luscious Isabellas, Catawbas and Concords that I have seen for many a day, if ever. The foliage was exposed to the drenching rains in July and August equally with all others, and yet was free from mildew. How are we to explain these various results? Your vines growing so near a drain may prove a similar success."

Certainly they may; for, excepting the soil and drainage, all the conditions just related are present. After the foregoing recital, I have strong faith in their succeeding. Up to this time it is an astonishment to the grape doctors that they were ever planted there. Hereafter, they may be an equal astonishment to them that their own vines had not been planted in a similar locality. My friend recites these discrepancies as nuts for other folks to crack, being harder ones than he can manage, though for forty years he has been a successful enthusiast in the grape culture. I content myself with merely putting them on record, being but a humble follower at the heels of many illustrious predecessors.

It strikes me there must be discrepancies of taste as well as of practice. There are those whose palates riot in the rank muskiness of the Fox grape, but I eschew it as I would physic. So all round the catalogue there is the same contrariety of taste. Two years ago a friend gave me a cutting from No. 3 of Rogers' Hybrids. I cut off an old Isabella that rarely ripened its fruit, some two inches below the ground, split the stump, inserted the graft, covered it up, and that season the graft made a growth of ten feet, ripening one bunch of grapes. The next season, 1865, it ripened thirty bunches, not very large ones, but perfect. It was the treasure of my garden. A multitude of gentlemen tasted of the fruit, no one being permitted the luxury of more than three or four grapes. The testimony in its favor was unanimous—it was the most delightful

native grape they had ever eaten, and I agreed with them. Yet the grape writers, as I occasionally see, pronounce it a poor affair, inferior to a dozen others which they name. How do such discrepancies occur? Is my taste so uneducated that I do not know what a good grape is when I taste it, and are my friends alike unsophisticated? Can it be because most of us eschew all foxiness?

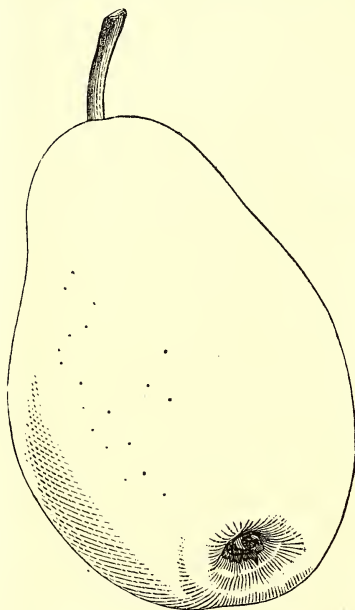
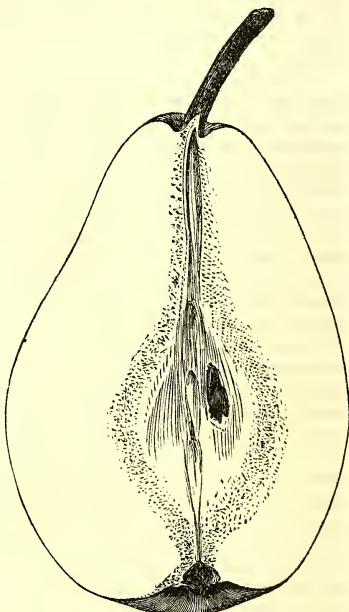
A recent writer declares that trenching is too costly an operation, and that the resulting crops will not be sufficiently remunerative to warrant the outlay. But my idea is, that if we expect the top of a plant to feed us, we must first feed it at the bottom. Four years ago I took up a Concord vine entire, some forty feet in length, and laid it down in a prepared border sixty feet long, six feet wide, and two and a half feet deep, allowing the branches to stand up for future vines. The earth from this trench was all carted away, except the top soil, which was mixed with half decayed sods from a meadow, and with this preparation the trench was filled. The sods had been copiously limed, and several barrels of bones had been gathered up, and were scattered through the mass. The growth of this vine was perfectly amazing. A trellis sixty feet long was very soon required, and the past season's yield was equal to anything within my knowledge. One could scarcely touch the vine without coming in contact with a bunch of grapes. The bunches, moreover, were very large, not one of them showing an imperfect berry. As regards flavor, there was an unmistakable superiority over any other Concord I have ever eaten. The quantity yielded was not ascertained, but there is little doubt that the crop, if sent to Philadelphia, would have sold for fifty dollars. The preparation of this border cost a week's work; but its products have afforded convincing evidence of the value of proper preparation of the ground—feeding below as the condition for harvesting overhead. The soil, when all had been combined, was a

deep black. Many bunches ripened within six inches of the surface, and, thus affected by the higher temperature reflected from the ground, possessed a luscious flavor which the most uneducated palate could not fail to recognise and appreciate. In one end of the same border are two Delawares, two years planted, which refused to grow. As they happen to be quite out of the way, they may remain where they are, a little longer, on trial. Should they refuse to flourish under such elaborate care, the fact will develop a discrepancy for which a novice like myself will be unable to account.

While thus unprofitably gossiping of grapes, let me describe a monster vine which is growing wild within two miles of me. This vine, by measurement made some years ago, was ascertained to be six feet one inch round the trunk at three feet from the ground, and at ten feet high it is three feet in circumference. It has never produced fruit, being a male vine. Its branches cover four large forest trees. It is the great wonder of the neighborhood, and has been for generations past, as it is an undoubted remnant of the aboriginal forest, spared by some thoughtful proprietor when clearing up the land, probably because of its enormous dimensions, a hundred years ago. The celebrated vine at Hampton Court is a comparative dwarf beside this monster. It was probably growing vigorously before the continent was discovered, but old age is fast developing evidences of decay. The centre is becoming spongy and rotten, affording strong temptation for some wandering sportsman to apply his wanton match, and precipitate its doom. I have thought of preserving its huge trunk, and having it sawed into sections, for distribution among the archives of our numerous horticultural societies, to be labeled, preserved, and exhibited to the curious enquirer as mementoes of what the soil of New Jersey is capable of producing in the way of grape vines.

BEURRÉ VAN MONS.

FROM a specimen of this excellent pear, The tree is described as vigorous and healthy, having an upright growth with yellow-brown wood.

FIG. 1.—*Beurré Van Mons Pear.*FIG. 2.—*Section.*

Fruit rather large. Skin smooth. Color yellowish, and a faint tinge of red on sunny side, with minute dots and sprinklings of russet. Calyx small, open, set in a smooth basin. Stem varying, seeds broad ovate. Flesh white, fine-grained, high-flavored and juicy; ripens in October.

From another authority we have the following:—

BARRONNE DE MELLO; ADELE DE ST. DENIS; BEURRE VAN MONS—Tree vigorous, upright, productive—an excellent variety

of foreign origin; fruit medium size, obovate, pyramidal, inclining to turbinate, slightly angular; skin yellow, nearly covered with cinnamon russet; stalk rather short, inserted at an inclination by a fleshy lip, or elongation of the fruit to the stalk by rings; calyx open, or partially closed; segments of medium length, a little recurved; basin small, shallow, uneven; flesh whitish, a little coarse, very juicy, melting, with a rich vinous flavor, slightly perfumed, quality very good, ripe in October.

FLOWER POTS.

BY E. S.

PLANTS and how to grow them have been the theme of many an interesting article in the pages of the *HORTICULTURIST*; the various compounds of soils are frequently discussed; we are told that the pots must be well and thoroughly drained, and the mode of placing the earth about the roots of the plants is given with considerable detail, but we have little or nothing about the pots themselves, or the best material to be used in their construction.

A late writer on flowers states that the common pot must be selected — “those which are light-colored rather than those which are brick-red; the former are soft-baked, and are more porous; in these the plants thrive better.” We are further cautioned against the use of “glazed, china, glass or fancy painted pots, they being not porous, and the plants seldom thrive in them.” If this advice is given, after a series of carefully conducted experiments have demonstrated its soundness, then it is worthy of all attention. But is it so? Is it not one of the old theories like the drainage subject (so ably disposed of by Peter Henderson, in a late number) handed down to us, untested, for generations? It is argued that the roots of plants need air, which is supplied through the pores of the pot.— How do the roots of plants obtain air, if it is necessary to their existence, in a state of nature? Is it not from the surface of the ground? Culture in pots is an unnatural and forced process; but those succeed best in such cultivation who imitate nature nearest in soils, moisture and temperature.

In the propagation of cuttings in pots, they are generally placed around the edge, under the supposition that they root more readily than if in the centre. This is not the case if the cuttings are properly treated, and not over-watered or neglected, as they generally are. In the former case, those in the centre damp off, while those

at the sides, having the benefit of the evaporation through the pores of the earthenware, do not receive any great surplus of moisture. By plunging the pots to the rim in sand or earth, and watering with moderation, all root equally well. Our large propagators discard the use of pots altogether, and plant their cuttings thickly in sand beds, where success is uniform. Now, Messrs. Editors, I, for one, do not believe in following in the old beaten track because all that have gone before us have done so. If there is a better way, let us find it out, and when we are satisfied that we are right, stick to our results at all hazards. I have been trying experiments, and my experiments have fully satisfied me that to attain the highest perfection in plant-growing, we must have something better than the common brick clay pot. In the room where I now write are two pots, containing bulbs of that charming winter-blooming plant, *Cyclamen Persicum*. One of the pots is glazed; this requires water but twice a week; the outside surface is of the temperature of the room, or nearly so; while its fellow, a soft, baked affair, requires water once a day, and then, even if the room is quite warm, the plant droops by night-fall; the surface is many degrees colder than the air, and the condition of the plant is inferior to the other.

Gardeners are considered slovenly when they allow green slimy growth on the outside of their pots; but they well know that this conduces to the health of their plants, preventing, to some extent, the evaporation from their surface that would be otherwise constantly going on, thus keeping the roots in a much lower temperature than they would be if planted in the earth.

The editor of the *London Cottage Gardener* truly says: “It was formerly considered important to have pots made of a material as porous as possible; but a more

miserable delusion never was handed down untested, from one generation to another. Stone-ware and china-ware are infinitely preferable, for they keep the roots more uniformly moist and warm. Common garden pots, if not plunged, should be thickly painted."

All practical men know, or ought to

know, the superior growth of plants in plunged pots over those exposed in the usual way; but few are willing to admit the true cause, which is that the evaporation from the surface of the common pot is thus prevented, and the roots of the plants are kept in a more equable condition as regards heat and moisture.

GLEANINGS.

I.

AMONG the most striking scenes of nature, I would instance the calm sublimity of a tropical night, when the stars, not sparkling, as in our northern skies, shed their soft and planetary light over the gently-heaving ocean; or I would recall the deep valleys of the Cordilleras, where the tall and slender palms pierce the leafy veil around them, and waving on high their feathery and arrow-like branches, form, as it were, a "forest above a forest;" or I would describe the summit of the peak of Teneriffe, when a horizontal layer of clouds, dazzling in whiteness, has separated the cone of cinders from the plain below, and suddenly the ascending current pierces the cloudy veil, so that the eye of the traveler may range from the brink of the crater, along the vine-clad slopes of Orotava, to the orange-gardens and banana-groves that skirt the shore. In scenes like these, it is not the peaceful charm spread over the face of nature that moves the heart, but rather the peculiar physiognomy and conformation of the land, the features of the landscape, the ever-varying outline of the clouds, and their blending with the horizon of the sea, whether it lies spread before us like a smooth and shining mirror, or is dimly seen through the morning mist. All that the senses can but imperfectly comprehend, all that is most awful in such romantic scenes of nature, may become a source of enjoyment to man, by opening a wild field to the creative powers of his imagination. Impressions change with the varying movements of the mind, and we are led by a happy illusion to believe that

we receive from the external world that with which we have ourselves invested it.

II.

SCIENCE proves, and we believe, such miracles as the following:—

The air is capable of solidification, liquefaction and color. A pressure from without of fifty miles deep of such air surrounds the earth.

Every adult supports a pressure on his own person of thirty thousand pounds' weight of this air.

Except for such an enormous compression from without, man would explode.

Except for this air, sound and life, including within them reason and language could not exist.

Many plants breathe, perspire, propagate by sexual distinctions, and possess a circulation of sensitive life.

The age of many trees which are, as it were, the aristocracy of plants, exceeds four thousand years.

There are, at least, no less than *seventy thousand* distinct species of such trees and plants.

The smallest insects are the architects by whom islands and continents have been built up out of the water.

The pyramids are constructed of stones formed of the concretions of minute shells of these insects; and all the chalk hills and chalk strata of the world are nothing but their excrements and remains.

Among land insects, the white ant and the bee have lived for thousands of years under hereditary institutions of established loyalty and order.

Others of these insects have *thirty thousand* eyes.

There have existed tribes of frogs, lizards, flying dragons, equal in dimensions to bison, hippopotami, elephants.

The whole earth was once nothing but slime.

The earth, fifty miles beneath its surface, is in a state of fiery fusion.

The earth, and as far as we can infer, nature itself, has been at least a dozen times destroyed and again created.

If the earth were a little nearer the sun, it would be liquefied, and pass away in smoke by evaporation.

If the earth were where any other planet is, or any other planet where the earth is, the whole solar system would be thrown back into chaos.

The moon is a world destitute of all vital air, water, vegetation and verdure—a horror of unbreathing lifelessness.

Mercury is a world where granite would instantly fuse.

The sun attracts and discharges comets to and from distances of 70,000,000,000 miles from itself.

The moon revolves round the earth, the earth round the sun, the sun round a centre in the Pleiades, that centre round some other, and so on from centre to centre, in the invisible Infinite.

There are *eighteen millions* such suns and systems as ours in the Milky Way alone.

The Nebulæ, or sun-stars of Orion, give us light at a distance requiring *sixty thousand* years for its transit. This light travels at the rate of *twelve million* miles per minute.

Beyond the furthest fields of telescopic

vision, there are other systems never to be visible to us on earth, because the light proceeding from them is, from their remoteness, decomposed in its transit, before it reaches us. That part of the universe, the vision of which is commanded by the earth, is thus necessarily limited;—it may not be 1,000,000,000th part of it,

There are behind these physical worlds, invisible and semi-immaterial powers:—heat, light, ether, galvanism, electricity, life.

III.

CICERO, in his work *de Natura Deorum*, ii, 37, furnishes the following striking passage from a lost work of Aristotle:

“If there were beings who lived in the depth of the earth, in dwellings adorned with statues and paintings, and every thing which is possessed in rich abundance by those whom we esteem fortunate; and if these beings could receive tidings of the power and might of the Gods, and could then emerge from their hidden dwellings through the open fissures of the earth, to the places which we inhabit; if they could suddenly behold the earth, and the sea, and the vault of heaven; could recognize the expanse of the cloudy firmament, and the might of the winds of heaven, and admire the sun in his majesty, beauty and radiant effulgence; and, lastly, when night veiled the earth in darkness, they could behold the starry heavens, the changing moon, and the stars rising and setting in the unvarying course ordained from eternity, they would surely exclaim, ‘there are Gods, and such great things must be the work of their hands!’”

GRAPES IN 1865.

BY J. M. MERRICK, JR., WALPOLE, MASS.

I propose to give, as briefly as possible, a *resumé* of the behavior of the various kinds of vines I have had under cultivation during the past year.

The fall of 1864 was very favorable to

the ripening of grape-wood. The summer had been very hot and dry, so that the vines made less wood than usual, but what did grow was very firm and hard. Then frost kept off wonderfully. Here, eighteen

miles south of Boston, vines, tomato plants, and tender vegetables were as green on the ninth of October as they were in June. The first frost that visited gardens occurred on the night of the ninth. Not a speck of mildew, nor a sign of leaf-blight or rot had been seen up to the last moment, and everything looked well for 1865.

The season which has just ended has been characterised by a very early spring, immunity from late frosts in May, very changeable weather until the middle of August, a hot and dry spell, lasting till the twentieth of September, and by the prevalence of mildew from the nineteenth of July till the first week in September.

Setting aside the ravages of the mildew, the season has been an excellent one for grapes, and very early withal—Concords and Delawares, for instance, ripening full three weeks earlier than the year before.

The vines which suffered from mildew with me are the following, which were affected in various degrees, those that were the most injured being named first, viz. :—Seedlings from the Catawba, Union Village, Concord, Diana and Rogers' 19; then Diana, Isabella, Adirondac, Israella and Concord. Ionas, Allen's Hybrid and Clinton were untouched by mildew, and Concords only very slightly.

ALLEN'S HYBRID.

This vine has made an excellent growth the past year, strong, healthy and vigorous—appears to be proof against mildew, and is, I think, the handsomest vine cultivated.

ADIRONDAC.

This I have not fruited, and all I can say of it is that it mildews very badly.

CONCORD.

The Concord, of course, maintains its well-earned reputation for hardiness, health and vigor of growth. Mine were fully ripe on the fifth of September last year, instead of between the twentieth and twenty-sixth, as in 1864.

CREVELING.

My vines are too young to bear, but they have made an excellent growth of healthy short-jointed wood.

DELAWARE.

A few leaves mildewed and fell off in August, but the growth of the vines was splendid, and the fruit simply perfect.—Some of my vines made twelve feet of good wood, and would have gone further had they not been pinched off.

Fruit ripe September third.

DIANA.

Growth exceedingly vigorous, requiring frequent pinching; leaves a little touched with mildew, and most of the bunches ripened, with tolerable evenness, between the fifteenth and twentieth of September.

IONA

Not in fruit, healthy, strong, and free from mildew.

ISRAELLA.

A free grower, mildews badly, wood ripened well.

ISABELLA.

I have cut down all my Isabella vines save one, as worthless incumbrances. I never saw a ripe berry of this variety raised out-doors near Boston. The Catawba is cultivated a little here, under glass.

REBECCA.

Growth tolerable; vine somewhat affected with mildew.

ROGERS' HYBRIDS.

All the numbers I have under cultivation that were not touched by mildew, made an excellent growth, and No. 15 ripened its fruit very early.

These vines, for excellence, vigor, ease of propagation and elegance of growth, must be ranked very high, and are gaining a hold upon public confidence which will be hard to shake.

UNION VILLAGE.

Growth strong and vigorous, the leaves showing hardly a speck of mildew, and

making quite a contrast with my seedlings, from the same, which were fairly eaten up.

I have not seen on my own vines more than a dozen berries touched with the rot, and these were all Concord; but my next neighbor, whose Concord is trained upon a S. W. wall, loses two-thirds of his crop by rot every year.

A slight sensation has been created here by a vine called Mains' Seedling, stated to possess wonderfully good qualities; but Mr. E. W. Bull has shown, in the *Ploughman*, that it is in all probability nothing but the Concord. The "Sanbornton" grape, which has made some stir in the papers, has been pronounced to be "the veritable Isabella" by Mr. Bull, and we here think twice before we question any of his dicta.

When we look over a book like Prince's on the Cultivation of the Vine, and see the enormous number of out-door vines mentioned by the author—vines even the names of which have utterly perished—we are reminded how very far we are from having reached the perfect grape, and how well it becomes us to continue our experiments and researches.

If I thought that any reader of the *HORTICULTURIST* would give me an answer, I should ask whether there is any known method of expediting the germination of grape seeds, chemically or otherwise, and I should ask, too, whether any unknown friend is anxious to make me happy by a present of some seed of the Iona, Israella, or Adirondac.

ESTHETICS OF RURAL LIFE.

BY ALGERNON SIDNEY AGRICOLA.

MESSRS. EDITORS:—

You have applied to me to write an article for the *HORTICULTURIST*, on the Esthetics of Rural Life. You have applied to the right man. Have I not lived and reveled in rural esthetics for two years? Have I not learned to distinguish a hen from a hawk, and a hawk from a handsaw? Have I not spent large sums for worthless manures? Have I not labored to conform to the impossible modes of culture laid down in the books? Have I not raised wheat at a cost of five dollars per bushel? Have I not eaten my own grapes, unripe to be sure, but the product of my own vines? Have I not spent twice as much for clothing as I did when I lived in the city, owing to the fact that broadcloth and fine linen have a tendency to get soiled in the barnyard, and that patent leather hath an affinity for lime? And do I not keep a dog? You have certainly come to the right man whether he is in the right place or not.

Friendly reader, who art confined amid brick and mortar, and brown stone and marble, come to the country for which you so often sigh, and contemplate with me some specimens of rural esthetics. Come with me to the hennery and behold four white, round, beautiful fresh laid eggs, the product of forty-eight hens. Does it take twelve hens to make one egg, do you ask? My friend, esthetics have little to do with philosophy? Philosophy inquires into the origin and causes of things. Esthetics are content to admire.

Admire the eggs. How beautiful in themselves! How suggestive of good coffee, buckwheat cakes, and a morning chat with Anna!

My neighbor Franco who has not made esthetics a study, affirms that his white Cameliars, now in bloom, are more beautiful than eggs. This wild opinion is not, after all, owing so much to his want of taste as to the fact that his hens do not lay!

Do you call that an egg, do you ask?

No, it is a miserable imitation in porcelain. The featherless biped thought he could deceive the feathered one. None are deceived by them but the purchasers.

Did't think hens knew so much? I am afraid you adopted your opinion as to their shallowness, from Old Tiff. Hens are acquainted with some of the fundamental principles of political economy. What principles? The principle that the product belongs to the producer, when the producer furnishes the materials. How does it appear that they know this principle? Deeds speak louder than words. The hens often eat their own eggs.

Connected with the beauty of eggs is the beauty of sounds. The poet informs us, that rural sounds, as well as rural sights, are delightful. The reader may not perhaps know, that whenever a hen has laid an egg, she makes a vocal announcement of the fact by a series of notes, running nearly through the entire scale, and more striking if not more beautiful than those oft times issuing from the lips of young ladies bending backwards from a piano. The other inhabitants of the hennery join in the chorus, and repeat the swelling joy. There are few sounds more pleasant than the cackling of a hen when you are waiting for a newly laid egg.

Behold another specimen of rural esthetics in the shape of milk, warm from the cow! The Alderney gives eight quarts a day. That's not much, do you say. The quantity is not great, but its quality! Why the milk is richer than any cream that was ever sold in the New York market, if there ever was any sold there, a point which I do not regard as settled. Does it make good butter? Good is not an epithet to be applied to it—nor better nor best. It would be necessary to invent a fourth degree of comparison to do it justice. And the beauty of it is, that it costs no more to make it now when butter is sixty cents a pound in the city, than it did when it was twenty cents a pound? What did I give for the cow? Two hundred dollars. How

much meal does she eat a day? You would lead me into statistics: I am dealing with esthetics. Cost is not an element of beauty.

What is more beautiful than cream in combination with coffee? How few of the inhabitants of the city have witnessed that combination? What more beautiful than fair, round, puffy biscuit mixed wholly with cream? How multiplied are the esthetics of rural life?

Behold another choice specimen. That is beautiful honey. You may well say so. What element of beauty is wanting in it. Did I make it? No, the bees made it. I may remark, that when I lived in the city, I was not celebrated for quickness at repartee, but it is wonderful what rural esthetics can do for a man. Where are the bees, now? They are spending the cold weather within doors, like sensible beings as they are. When do they swarm, do you ask? Well, mine have always swarmed on pleasant Sunday mornings, just as we were ready to set out for church. I always stopped and hived them, but owing to some cause, they would never stay in the hive. My swarms have always gone off, but the original stock remains.

Behold another specimen or other specimens. Pears in winter! Yes, the Vicar of Winkfield is just in perfection now. Every man and woman of taste, who makes a sufficiently near approach to it is charmed with it. Margaret admires it on account of its beauty and its romantic name; although she has sought in vain through the pages of the Vicar of Wakefield for some account of its origin. Nice distinctions sometimes escape the female mind.

Behold another specimen in some respect superior to all,—the bird of Jove, Minerva, Venus and Mercury combined; Nothing but a turkey, do you say? Why not say of that brilliant that cost fifty bales of stolen cotton, nothing but a diamond? Why not say, nothing but a nugget of gold weighing six hundred pounds! Nothing but a turkey! Oh shame! Where

is thy blush? Can see plenty of them in the city? Did you ever see in the city, a form like that, so fair, so smooth, so plump! so powerful to awaken recollections of the past and anticipations of the future? We have read about the full-bosomed nymphs of other days. Homer and Horace were ignorant of turkeys or we should have numerous allusions to their soft and esculent bosoms. If you wish, O inhabitant of

the metropolis, to add to your knowledge, that of the true flavor of the turkey as he was made to be eaten, come and dine with me on a corn fed rural turkey. We will make you comfortable. We have no furnace to give out on a cold day. A blazing wood fire will look you honestly in the face. A wife whose voice of affection has never been out of tune for more than thirty years shall welcome you.

GARDENS AND PARKS OF GERMANY.—(*Continued.*)

THE finest public garden in Germany is that of the Sanssoussi, 'at Potsdam, a town of about fifty thousand inhabitants, situated some twenty miles from Berlin, the capital of Prussia. These grounds belong to the royal family, and contain two royal palaces, built by Frederick the Great, under whom the gardens were laid out.—They are over a mile in length, and about two-thirds of a mile in breadth; but though so extensive, the whole aspect is much more that of a large garden than a park. The whole surface is laid out in winding walks, while through the centre runs a long broad avenue, cutting the garden into two parts. After entering through the porter's lodge, you pass through an avenue of trees along one side of the private garden of the king, and passing between two colossal white marble sphinxes, enter the garden. Passing by a few parquettes ornamented with bronze fountains, you reach the grand fountain, which throws a single jet 120 feet in height. This is surrounded by a number of allegorical statues in white marble. Just at the foot of the fountain rise the magnificent terraces which lead to the old castle of Sanssoussi. They are six in number, rising one above the other, to a height of sixty feet. They are very wide, and extend out for many rods on either side of the broad steps by which you ascend them. They are laid out with beautiful beds of flowers, and covered with orange trees; at the time I saw them laden with golden fruit;

and among the oranges were lemon, and fig, and olive trees, while up the walls of the terrace, the grape and ornamental vines were trained. The whole effect produced by this combination of terraces, as you view them either from above or below, was striking and beautiful, and equalled in no other garden that I have seen. Just at the summit stands the palace, a long, low edifice, with no pretensions to architectural beauty. It is adorned in front and shut off from the terraced ascent by an elegant marble colonade. Leaving the palace, you pass on through groves and clumps of shrubbery, by gracefully laid out parquettes and artistic arbors, among fountains, and marble and bronze groups in almost endless profusion, through the Sicilian garden devoted to tropical plants, and by the pinetum, losing yourself in the intricate maze of walks and shrubbery, only to come un-awares upon some unexpected beauty. At length, ascending a broad flight of marble steps, you reach a spacious terrace, adorned with fountains, statues and urns.

It is fronted by an elegant balustrade of light grey marble, while back of it, rises the orangery, a splendid building, one thousand feet in length, and designed as the winter residence of the orange trees which adorn the terraces. Not far from here you see an old wind-mill, with great feather-like sails, rising up above the trees; and this old mill has its history.

When Frederick the Great laid out these

grounds, this mill stood in his way, but the miller owned the mill and the ground upon which it stood, and would not sell even to the king; so the king took it, and the miller sued him, and won his mill back. This pleased the whimsical king, and buying the mill sometime after, he pensioned the miller, and declared that the wind-mill should always remain in the gardens of Sanssoussi.

After wandering through beautifully laid out grounds, for perhaps half an hour, you reach the New Palace, which is not new by any means, being more than a hundred years old. It is a very ugly looking immense building of red brick, surmounted by hundreds of stucco statues, causing the palace to look as if a regiment of men had been petrified upon its parapets.

The garden contains a multitude of grottos, temples and ruins; here a Chinese, there an antique temple. In one place a mausoleum containing a beautiful statue of Queen Louise of Prussia, while a little at the side of the garden proper is an Italian villa, situated in an Italian garden, and finished with very ornamental Romish baths. To one wandering through this garden it seems quite endless, and one stops so often to look at the various objects around him, that a whole day will pass without your having completed your survey. After going through the new palace, which is as magnificent internally as it is unpromising without, we walked straight back through the garden, down an avenue of grand old lindens a mile in length. Just as we reached the grand fountain, the sun was setting, and the mighty stream of water as it rose in the air caught the slanting sunbeams in its embrace, breaking them into a thousand prismatic rays, and then bending gracefully beneath its own weight, it descended, each liquid drop bathed in a flood of sunlit glory.

It has often struck me as strange, that we hear so little about these grounds, and that so few comparatively ever visit them. They are certainly the most interesting

that I have ever visited. Other gardens may surpass this in some one particular, but there are here a greater combination of beauties. It seems to be a peculiarity of the Germans to fill their gardens with all manner of little temples, and ruins, and grottos; some of them displaying a great degree of taste, and serving really as ornaments, while others mar rather than beautify.

Not far from the city of Heidelberg is the ducal garden of Schwebgingen. It was laid out in the middle of the eighteenth century by the Grand Duke Charles Theodore, and is partly in the old French style. It contains nearly three hundred acres, and formerly some \$20,000 were yearly expended upon it. Of late years it has not received so much attention, but the grounds are still well kept, and are very beautiful. It is situated just back of an ugly old castle, through which you pass by means of large arched corridors. Upon entering the garden, you look down a broad vista, and see with a glance a part of the plan. The part nearest you is laid out in the form of an immense circle, cut into eight sectors by diverging walks. A broad avenue of trees bisects this circle, and loses itself in the groves at either side of you; while straight ahead a broad walk, lined with flower beds, leads to the centre of the circle. The centre-piece is formed by a large bronze fountain, representing Arion upon a Dolphin; while surrounding this are a number of children holding swans in their arms.—Leading away from the fountain are eight beautiful grass plats, and in the centre of each a tasteful bronze fountain. Around the periphery of the circle, upon the one half, run two of the most beautiful arbors that I have ever seen. They were built very simply of small slats, and were many rods in length, forming arcs of circles, and arcs of living green. They were so completely covered with luxuriant vines, that every vestige of a support was concealed.—Leaving the circle, you pass by four colossal groups, emblematic of the four seasons; by fine bronze groups and urns of flowers,

and reach a narrow lawn, bordered on either side by rows of stately old lindens clipped in the French style, so that, as you looked down the vista, you saw a curved and regular façade of dense green foliage on either side. To the right and left of the lawn were groves of fine trees, laid out with walks in regular geometrical forms; and here the French style ended, for the remainder of the garden was laid out in winding walks, and clumps of trees opening upon green and irregular lawns. At the end of the long lawn was a small lake, and just here two colossal figures, reclining among high grasses and weeds, typical of the rivers Rhine and Danube. The lake branches out into broad outlets, forming charming little islands; and over these arms were thrown graceful rustic bridges. Everywhere as you pass along you chance upon pretty marble statues, and groups and fountains. In one place, surrounded by a dense thicket, was a huge Pan, seated upon a great rock, playing his pipe of reeds; and I remember once being very much amused by the remarks of some peasant women concerning harmless Pan, for they had concluded, after due deliberation, that he was a personification of the Devil. In another part of the garden was a round temple, built on a grotto of tufa, and dedicated to Apollo, whose statue adorned it. In front of the grotto two reclining maidens formed a fountain, by pouring water from urns over a series of low stone terraces. To the right of this was an elegant bath-house, which was connected by an arbor with a very curious fountain. In the basin of the fountain sat a bronze hawk, holding in its claws an unfortunate chicken of bronze; while around above, at a height of some twenty feet, stood a circle of enraged and bristling bronze hens and cocks, upon a bronze roost, in every attitude of defiance and rage. From the mouths of these twenty fowls streams of water were pouring down upon the guilty hawk, who in return was sending aloft, as if in defiance, a solitary opposing stream. But these are not half of the many wonders of this won-

derful garden. Here, embosomed in shrubbery, is an artificial ruin; there an ancient Roman aqueduct; here a mosque, with towering minarets and gilded courts; and there a temple of botany, designed to represent a segment of an immense tree.— This garden, in part, resembles Versailles, and in part Sanssouci; but it lacks the elegance and the fountains of the one, and the extent and terraces of the other.

It is not alone the princes, however, who thus seek to beautify their residences. At Frankfort-on-the-Main, in the beginning of this century, the old fortifications which surrounded the city were torn down, and where they once stood are now smiling gardens and lawns, neatly-trimmed walks and hedges encircling the city. One can take a carriage and drive for miles through beautiful avenues, with elegant mansions amid spacious grounds on the one side, and these public promenades on the other.

Certainly the wealth of this great financial centre has been well expended in making its environs to vie in beauty with those of any other European city. And so it is in the free city of Hamburgh. The old walls have long since been leveled to the ground, the moat filled, and in their places have sprung up beautiful gardens and shady groves—a delight to the stranger, and a source of health and continued pleasure to the citizen. Nowhere have I seen such a profusion of palatial city residences, with beautiful grounds, as at Berlin. There are many streets in the new part of the city which are made up entirely of these private palaces. The houses are all of brick, and are covered with stucco, but so well is this done, that they at the first glance appear to be of solid stone. The Berlin artisans are very skillful in their use of stucco; and the houses are often most elaborately ornamented with statues, caryatides, and relieves. The stucco work is always painted, and much taste is displayed in the various shades of coloring, giving an agreeable variety, and avoiding monotony.

(To be continued.)

THE NEW ERA IN GRAPE CULTURE.—IV.

BY GEORGE HUSMANN.

BUT after all this talk of making grape culture easy, Messrs. Editors, I suppose that your readers wish to know something about its results. They will naturally say: All this talk may look well and enticing enough, but if the work is made so easy, will not its results be comparatively light? A natural question; and one which I will endeavor to answer, by giving the returns of this season, generally conceded to have been the worst for rot and mildew we have ever had at the West; from the same vineyard, which was prepared with the plough, at a cost of \$25 per acre, and which my tenant has been working on shares for four years now. Here they are:

500 vines of Concord, planted 1861, distance 6 x 6, about 4-tenths of an acre, produced 1,030 gallons of wine; average value, \$2.50 per gallon.....	\$2,575 00
1,200 vines of Norton's Virginia, planted same distance, about an acre, produced 1,300 gallons of wine, average value, 4 dollars.....	5,200 00
100 vines of Herbemont, planted same distance, produced 125 gallons, average value, 3 dollars per gallon.....	375 00
50 vines Cunningham, produced 30 gallons, average value, 4 dollars.....	120 00
350 vines Delaware, planted 4 x 6, about one-fifth of an acre, produced 40 gallons, average value, 6 dollars.....	240 00
12 bearing vines of Hartford Prolific, produced 336 lbs. of grapes, marketed at 20 cents per lb.....	67 20
12 vines Clinton, produced 10 gallons wine, value, 3 dollars.....	30 00
Wine made from other varieties, about 50 gallons, at 3 dollars	150 00
Total in bearing, about 2 acres	8,757 20
Deduct from this for interest from capital, labor, casks	1,000 00
Leaves a clear profit of.....	\$7,757 20
To which may be added 57,000 vines grown from the cuttings clipped from the vineyard, at an average of 100 dollars per 1,000.....	5,700 00
Total.....	\$13,457 20

How do you like this record of a bad season? Can Grant, Mead & Co. show a

better? With all the costly preparation of soil, Thomery system of training, &c., can they do more? By-the-bye, Messrs. Editors, allow me through your columns, to ask Dr. Grant, my friend Fuller, and others to answer a single question. It is this: How is it, that they can give us theories, very practical even, which look very fine on paper, read very plausible, yet we never hear of the results? If their method is so very profitable, they would, I am sure, do the public a favor, if they would give us statistics of the growths. Will not our brother grapegrowers generally, give us a little bit of history, and more facts, through your columns? I am sure your readers would appreciate them.

And now let me give a few hints to our friend Reuben, in all friendliness and kindness, as I am sure his criticisms are made in the same spirit. He makes objections to adding the value of the plants grown, to the products of the vineyard; and wishes to have only the returns from the fruit. Well, possibly, this looks a little like fault-finding. What hinders him, or anybody else, to figure it up separately, should they so choose. To us, and I think, to every one else, who can sell the plants, the grape wood is quite an object, which it would surely be folly not to use, and let me tell him, that this season's experience shows again, that there are not half enough of the really valuable varieties in the market yet, to meet the demand. I know that I am speaking against my own interest here, as a propagator of vines; but I do wish (and will do all in my power to teach them how to do it;) that every grape grower should raise his own plants, at least to enlarge his vineyard. The process is simple enough. Let him prune his vines in the fall, as soon as they have dropped their

leaves, and cut all the sound, well-ripened wood of the summer's growth, into cuttings of from two to three buds each. These are cut close below the lowest eye, tied into convenient bundles, and buried in the ground, until next spring. As soon in spring as the condition of the soil will permit, a good mellow piece of soil is prepared by plowing deeply, and mellowing up well; then take a spade, and set it down perpendicularly, moving it a little, so as to open the cut, and let one follow with the cuttings, insert them into the cut made with the spade, and press them down firmly, so that the upper eye or bud is even with the ground, and then press the ground firmly against the cuttings with your foot; make the rows two feet apart; and put the cuttings about two inches apart in the rows. Mulch the bed with straw or litter, about two inches deep, and pull out the weeds whenever it is necessary during the summer. You may take my word for it, that you can raise an abundance of good, healthy and thrifty plants in this way, which will answer your purpose better than the majority of plants raised by *professional* growers under glass, and which are arrogantly lauded and puffed as "superior to all others grown." In sober truth, Messrs. Editors, I begin to have a horror of these so-called "superior plants," and "layers for immediate bearing," which some of our professional men will advertise with a great flourish of trumpets; and which a good many simple, confiding souls will buy, with a vision of a fine crop of grapes the same summer before their eyes, and for which they will pay from three to five dollars a piece. The whole idea of "immediate bearing" is wrong. Even if they succeed in getting a few sickly bunches from a newly transplanted vine, it is done at an immense cost of the vitality and vigor of the plant. No fruit should be required from a vine until the third summer after planting, and then, if it has been taken good care of, it is able to produce a *good* crop, whereas you may force a vine to bear a few

bunches prematurely, but you will do so at the cost of almost its life, and stunt it for several years to come. It is like putting the burden of a full-grown man on the shoulders of a little child. While I would advise every one to plant good, strong, vigorous plants, I would caution him also against too early bearing. Let the vine first have the vigor necessary for the task, and it will bear its burden willingly, and bear such fruit as will rejoice the eye, tickle the palate, and make wine which will truly "gladden the heart of man." It is time that our grape growing public understand this; that they comprehend when they task their vines too early, they do so at a fearful cost of vitality and vigor. Many promising young vineyards are ruined annually, by their owner's over-impatience for a crop; and it will not do for professional men, who ought to, and *do* know better, to tell their confiding customers stories of "immediate bearing," simply because it will induce them to pay an additional dollar or so, to put into the propagator's pocket. Our customers should pay us, who grow vines for their benefit, *well* for *really good* plants, but do not let us mislead them into false practices, simply because it may be for *our* benefit. And let us be a little more charitable towards each other. We can all grow good plants, as near perfection as may be, and it is our duty to do so. And let us not be afraid to let the public know a little of our propagating practices. Even if they do grow a good many plants themselves, we will find enough to do yet, to supply those who do not. Let us make grape-growing easy, wherever we can, so that it may increase and spread over the whole length of the land, from Maine to California.

A few words more about friend Reuben's criticism on the October number, and I shall not inflict any stronger dose of "grape-growing made easy" upon your readers. It is his remark on my method of summer pruning, which he has evidently not clearly understood. Please bear in mind,

friend Reuben, that the pinching is done *very early*; but instead of robbing the plant of its leaves, the young shoots are pinched *before* the leaves have developed, and by checking the growth of the leading shoot, we force the laterals out, and form and develop new and vigorous leaves on them, just where they ought to be, opposite each bunch, and that these new leaves will serve as conductors of sap to the young bunch. It is only a gentle checking, *not robbing* of leaves, in fact it "makes four leaves grow, and in a better place, where there was one before. This is, in my opinion, perfectly in harmony with the "laws of vegetable physiology," and the same principle lays at the root of it, which we follow in pinching in dwarf pear trees. Please try it, friend Reuben, on only a single vine, if you will not risk it on more, and report progress; or what is better still, come and visit me next summer, and I will show you its results. I think anyhow,

that the *greatest success* is an indication of the best method and theory, and really, some of our artists remind me of one of my neighbors, an old vintner, grown grey in the business, but who follows his method and old foggy practice strictly. He will come and look at my grapes several times every summer, and will admit that I grow a great many more, and much finer grapes than he does, "But neighbor," he will say, "you are wrong anyway, your method is not right." My "method" is to find how I can grow the most and best fruit, with the least labor and cost, and as long as I succeed in this, I do not mind the old rules so very strictly.

In another paper, I may give your readers a report on the different varieties of grapes, and how each of them has behaved during this, the most trying summer we have had, as long as we have grown grapes here.

Hermann, Mo., Dec. 14, 1865.

THE CIRCULATION OF THE SAP IN TREES.

THE first vital function in trees, after the frost is moderated, and the earth is sufficiently thawed, is the ascent of the sap, which is taken up by the absorbent vessels composing the inner bark of the tree, and reaching to the extremity of the fibres of the roots. The water thus imbibed by the roots is there mixed with a quantity of saccharine matter, and formed into sap, whence it is distributed in great abundance to every individual bud. The great quantity of sweet liquid sap provided for the nourishment of some trees is evident from the prevalent custom of *tapping* trees, to draw off their fluids for various purposes.—In the tropical regions this method is employed by the inhabitants to procure their favorite liquor—palm oil, and also the sap from which they make India rubber and gutta percha. In the Northern States and Canada the sap of the sugar maple is procured in the same way, which, being boiled

down, yields sugar of a well-known peculiar flavor and richness.

This great accession of nourishment, when the sap begins to flow freely, causes the bud to swell, to break through its covering, and to spread into blossoms, or to lengthen into a shoot bearing leaves. This is the first process, and, properly speaking, is all that belongs to the springing or elongation of trees; and in many plants, that is, all those which are annual or deciduous, there is no other process. The plant absorbs juices from the earth, and in proportion to the quantity of these juices, increases in size; it expands its blossoms, perfects its fruit, and when the ground is incapable, by drought or frost, of yielding any more moisture, or when the vessels of the plant are not able to draw it up, the plant perishes. But in trees, though the beginning and end of the first process is exactly similar to that which takes place in

vegetables, yet there is a second process which, at the same time that it adds to their bulk, enables them to endure, and go on increasing through a long series of years.

The second process begins soon after the first, in this way :—At the base of the foot-stalk of each leaf a small bud is gradually formed, but the absorbent vessels of the leaf have exhausted themselves in the formation of the bud, and are unable to bring it nearer to maturity. In this state it resembles exactly a seed, containing within it the rudiments of vegetation, but destitute of absorbent vessels to nourish and evolve the embryo. Being surrounded, however, by sap, like a seed in moist earth, it is in a proper situation for growing; the influence of the sun sets in motion the juices of the bud and of the seed, and the first operation in both of them is to send down roots a certain depth into the ground, for the purpose of obtaining the necessary moisture. The bud, accordingly, shoots down its roots, so to say, upon the inner bark of the tree, till they reach the part covered by the earth. Winter now arriving, the cold and defect of moisture, owing to the clogged condition of the absorbent vessels, cause the fruit and leaves to fall, so that, except the provision of buds with roots along the inner bark, the remainder

of the tree, like an annual plant, is dead.—The leaves, the flowers, the fruit are gone; and what was the inner bark is no longer organized, while the roots of the buds form a new inner bark; and thus the buds with their roots contain all that remains alive of the whole tree. It is owing to this annual renovation of the inner bark that the tree increases in bulk; and a new coating being added every year, we are hence furnished with an easy and exact method of ascertaining the age of a tree, by counting the number of concentric circles of which the trunk is composed.

A tree, therefore, properly speaking, is rather a congeries of a multitude of annual plants than a perennial individual. The sap in trees always rises as soon as the frost is abated, so that when the stimulus of the warm weather in the early spring acts upon the bud, there should be at hand a supply of food for its nourishment; and if by any means the sap is prevented from ascending at the proper time, the tree infallibly perishes. Remarkable examples of this method of destroying the life of trees are seen everywhere in our new western country, where immense forests are killed by the simple process of *girdling*, that is, cutting a ring around the tree through the inner bark, and thus interrupting the circulation of the sap.

LEAVES.

WE are all familiar with *leaves*, in the various stages of their life, growth and decay. We watch, with interest, their outbursting in spring, their tender and delicate beauty, so refreshing to the eye, after the desolations of the long winter. We admire them in their full summer development, their rich, luxuriant greenness, and the exuberance in which they clothe the stems on which they grow. Their autumn beauty is not less attractive to the thoughtful mind, when, many-tinted, golden, russet, pale-yellow, brown, and scarlet, they

hang, a crown of glory, upon the woods. Has it ever occurred to us to inquire, what is a leaf?

Every leaf is in itself a distinct individual, the blossoms themselves being mere leaves adapted for a special purpose. A tree, like a compound zoophyte, is a colony of individuals, bound into a community, or body corporate, by means of the living bark enclosing and producing a woody skeleton or support.

The leaves of a tree, like the polypes of the coralline, are distinct from each other,

yet united by means of a living tissue, which commenced its development in the seed—in the pip, in the acorn, or the beechmast. Moreover, as in the polypes of the coral, some are destined for nutrition, others for reproduction; so in the tree or shrub, some of the leaves are intended as organs of respiration, secretion, and the digestion of the fluids conveyed to them through the inner bark, converting them into either bitters or sweets, or acids, into nutriment or poison, so far as the animal kingdom is concerned. Others again are modified, and become what we term flowers, exhaling delicious odors, or repellant effluvia; and these flowers are designed for the continuance of the species.

Professor Forbes says, "We are not in the habit of regarding the leaf as the individual; popularly we look at the whole plant as the individual; yet every botanist knows that it is a combination of individuals, and if so, each series of buds must certainly be regarded as generations."

No leaf falls until provision is made for a successor; and the bud which is developed before the face of the decaying leaf, may be, in its turn, either a leaf only, or that modification of a leaf which we term a flower. Such, then, is a leaf; dying, it leaves its embryo successors; and the tree may be truly said to pass then into a state of hybernation. There are no longer leaves requiring food from the vessels of the inner rind; hence the activity of these tubes would be to no purpose; the bark sleeps; the woody skeleton can scarcely be said to possess organic life; of the pith we know little. Yet in such trees as the alder, in the youngest branches of which the pith is abundant, and is at this time juicy, though it becomes dry afterwards, we cannot but suppose that it subserves some important purpose. This pith, or medulla, it may be observed, is usually most abundant in young and growing branches; and some naturalists have deemed it the seat of that irritability which many plants so remarkably display. Others, again, suppose it to be a re-

servoir of moisture, as a supply to the leaves, whenever an excess of perspiration renders such assistance necessary. It is said that a direct communication by vessels has been actually traced between the pith and the leaf. "Plants seem to require some such reservoir; for their young leaves are excessively tender; they perspire much, and cannot, like animals, fly to the shade or brook."

But it must be observed in reference to this theory, that all the moisture in the pith of a whole branch, is in some cases too little to supply one hour's perspiration for a single leaf. Nor does observation show that this moisture of the pith varies, let the leaves be ever so flaccid. It is probable, therefore, that the pith is in some way, a reservoir of vital energy, but not as supplying moisture to the exhausted leaves.

But it is not the purpose of this paper to follow up any mooted point in vegetable physiology, but rather to indicate some of the more obvious phenomena of leaves. Suffice it to say, that having fulfilled their duties, like all organic things, they begin to fade, and dying are scattered by the winds from off the rind or bark, between which and themselves a line of demarcation is drawn. For at a definite point the sap-vessels lose their vital energy, and becoming obliterated the supply to the leaf is arrested. A mere touch will cause the leaf to fall at the axillary junction of its stalk or twig; but then the bud has been duly elaborated, a bud to be unfolded on the return of spring.

How cheerless is the garden in November; the sear and yellow leaves are fallen in showers from the trees, and drifted by the wind they strew the gravelled paths, —cover the flower beds, collect around the roots of shrubs and bushes, or are driven into heaps in corners. The summer flowers have faded, but here and there a pale blossom of the monthly rose still lingers on its stem; the showy Dahlia yet holds out, struggling against fate, and the Asters and Chrysanthemums flaunt in colors of regal beauty. The Barberry bush hangs

out its pendant streamers of wax-like berries, coral red. The holly looks fresher even than ever, and its berries are ruddy and beautiful. Green is the hedge of Privet, with its jet-black clusters of berries, producing a pleasing contrast.

Rapidly, at this season, the deciduous trees and shrubs lose their foliage—their leaves cover the ground as with a garment, affording protection from the cold to the buried roots of plants which need defence from the winter; but this is not their only use, they serve a second important purpose. As the spring comes on with its warm showers, they fall into decomposition, and afford a rich manure to the roots which they shielded during the severe season. They form in their decay a rich vegetable mould—a natural top-dressing to the subjacent soil, and thus render it lighter and

richer. Well does the gardener know the value of decomposed vegetable matter as manure; and one reason why many of our rarer wild flowers seldom flourish when introduced into the garden, is the deficiency in the soil of pure vegetable mould; for gardens are usually cleared from time to time of their leafy *litter*, while in our woods and copses, and along our fences and hedges, the decaying foliage remains where it fell, and year after year adds fresh nutriment to the sandy or argillaceous substratum. Thus it is that nature manures the soil, and adds successive coverings of vegetable mould to the surface of the sterile ground, or the rocky bed, until plants of a higher order succeed the lichens and mosses which first spread upon the once naked surface, and in their turn add to the increase of the fertile layer.

FEBRUARY.

THE month of February, according to Verstegan, was called by our Saxon ancestors, *Sprout-kele*. The kele-wort, which is now called cole wort, was, in times long past, the most common pot-herb used by our ancestors, and the broth made with it was therefore called *kele-broth*. This broth supplied to a large extent, the winter sustenance of the Saxon husbandman and his family. During this month the plant began to put forth its young and tender sprouts, and hence the name, *Sprout-kele*.

February had, also, in those early times the name of *Solmonath*, which on the authority of the venerable Bede, means *Pan-cake-month*. Because at this season the Pagan Saxons were accustomed to offer up "cakes" in their worship of the sun.

The Latin *Februarius*, the original of the name by which we designate the month, is derived from the word *februa*, which signified an expiatory, or purifying sacrifice offered to the Manes, because in this month the Luperci, or priests of Pan, perambulated the city, carrying thongs of goat-

skin, with which they scourged delinquents, and this was received for an expiation.

On Candlemas eve, the 1st of February, was kindled the *Yule-brand*, which was allowed to burn till sunset, when it was extinguished and carefully laid aside and preserved, to be used for lighting the Christmas log at the next return of the season. The prevailing superstition connected with the preservation of the *Yule-brand* is thus noticed by Herrick:

And, where 'tis safely kept, the fiend
Can do no mischief there.

February can hardly be regarded as a pleasant or comfortable month in any part of the country north of latitude 35 degs. Indeed in some of our northern States the cold and tempest are most severe; the snow lies in deep drifts; the waters are fast bound in icy fetters; and there are no signs except, perhaps, in the perceptible lengthening of the days, and the increase of meridian brightness and heat, of the approach of Spring. In the milder middle

regions, the breaking up of winter; the elemental conflict between the retiring and the incoming seasons; the freezing and the thawing, are vividly enough described in *Howitt's Book of the Seasons*:—There is a lack of comfort felt everywhere. In real winter weather the clear, pure frosty air sharply saluted the face by day, and revealed to the eye at night, a scene of pure and sublime splendor in the lofty and intensely blue sky, glittering with congregated stars, or irradiated with the placid moon. There was a sense of vigor, of elasticity, of freshness about you, which made it welcome; but now, most commonly, by day or by night, the sky is hidden in impenetrable vapor; the earth is sodden, and splashy and wet; even the fireside does not escape the comfortless sense of humidity. Everything presents to the eye, accustomed so long to the brightness of clearfrosts, and the pure whiteness of snow, a dingy and soiled aspect. All things are dripping with wet; it hangs upon the walls like heavy dew; it penetrates into the drawers and wardrobes of your warmest chambers; and you are surprised at the unusual dampness of your clothes, linen, books, and papers; and in short, almost everything you have occasion to examine. Brick and stone floors are now dangerous things for thinly-clad people to stand upon. To this source, and, in fact, to the dampness of this month, operating in various ways, may be attributed not a few of

the colds, coughs, and consumptions so prevalent in England. Pavements are frequently so much elevated by the expansion of the moisture beneath, as to obstruct the opening and shutting of doors and gates; and your gravel walks resemble saturated sponges. Abroad, the streets are flooded with muddy water, and slippery with patches of half-thawed ice and snow, which strikes through your shoes in a moment.

The houses, and all objects whatever, have a dirty and disconsolate aspect; and clouds of dim, smoky haze hover over the whole dispiriting scene. In the country the prospect is not much better; the roads are full of mire. In the woods and copses you hear a continual dripping and pattering of wet; while the fieldfares, instead of flying across the country with a pleasant chattering, sit solitarily among the comfortless trees, uttering their plaintive cry of "cock-shute," "cock-shute," and the very rooks peer about after worms in the fields with a drooping air. Instead of the enchantment of hoar-frost, you have naked hedges, sallow and decaying weeds beneath them, brown and wet pastures, and sheets of ice, but recently affording so much fine exercise to skaters and sliders, half submerged in water, full of great cracks, scattered with straws and dirty patches, and stones half liberated by the thaw. Such are the miserable features of the time.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

WOODWARD'S COUNTRY HOMES.—This popular and elegantly illustrated book has passed through three editions, and a fourth is now on the press, which we hope to have ready in a week or two. The demand is unabated; in fact, it increases as the work

becomes better known. It has taken its rank now among the very few successful books of the day, and supplies the want long felt of a guide to the construction of houses of moderate cost.

THE DELAWARE GRAPE.—The original painting for our plate of the Delaware Grape is now in the hands of the lithographer, who means to make a first-class picture of it—one suitable for the adornment of any room. We hope to have it ready for delivery early in February. Price, mailed free, THREE Dollars; but any subscriber who sends us two *new* names and five dollars, in addition to his own subscription, will have a copy sent him free of cost.

THIS VOLUME OF THE HORTICULTURIST will be fully illustrated. Architectural designs, and plans for laying out small tracts of land will be freely given, and, in accordance with many requests, these designs will contemplate only moderate expenditures. We also propose to illustrate fully all the newer fruits, flowers, etc., and shall be pleased to receive from our readers drawings or specimens for this purpose.

WE CALL THE ATTENTION of our readers to the advertisement of the PRAIRIE FARMER and the Tilden Tomato. By some unaccountable oversight, this advertisement was omitted from our January number; but let not this error prevent any one of our readers from taking the PRAIRIE FARMER. Send Two Dollars at once to Messrs. Emery & Co., Chicago, and get a wide-awake exponent of Western agriculture, published by gentlemen who show commendable energy in getting up a first-rate paper and letting the public know it. Every subscriber gets a paper of Tilden Tomato seed, out of which he can make money enough to pay for the paper.

STOEVEY RASPBERRY.—"Reuben" in the December number of HORTICULTURIST, asks information in regard to this raspberry. Fruit small and not of much value. It throws up an immense quantity of suckers, and is not worth the room it occupies.

Allen's Red Prolific and Kirtland, has the same habit of suckering, but much more

prolific and larger fruit, similar in shape, color, and flavor, and are no doubt improved chance seedlings or Hybrids.

CHAS. DOWNING.

A WESTERN SUBSCRIBER asks how to prepare white-oak posts for vineyards to prevent decay. The best remedy is to char; but where that cannot readily be done, we advise to place in solution of copperas as indicated by the writer of "Our Method," in Vol. 20, to which we refer him. A preparation of gas tar is sometimes used, but is not as cleanly as the other modes.

A REMARKABLE instance of the effect of frost in overcoming the circulation of the sap in trees and destroying their life, occurred in London during the spring succeeding the hard winter of the year 1794. The snow and ice collecting in the streets, so as to become very inconvenient, they were cleared, and many cartloads were placed in the vacant quarters of Moorfields. Several of these heaps of snow and frozen rubbish were piled around some of the elm-trees that grew there. At the return of spring, those of the trees that were not surrounded with the snow, expanded their leaves as usual, while the others being girt with a large frozen mass, continued quite bare; for the fact was, the absorbents in the lower part of the stem, and the earth in which the trees stood, were still exposed to a freezing cold. In some weeks, however, the snow was thawed, but the greater number of the trees were dead, and those few that did produce any leaves were sickly, and continued in a languishing state all summer, and then died.

SUCCESSFUL FRUIT RAISING.—Truman M. Smith, Esq., of Dayton's Bluff, sends us some specimens of fruit raised in his orchard. He has devoted several years to the culture of fruit and vegetables, and has now one of the finest orchards and nurseries in this vicinity, containing a large number of trees and shrubs in bearing.

Mr. Smith is also experimenting with other varieties of fruit, and we have no doubt that he will succeed in cultivating a number of species of fruit that have not hitherto been raised here—such as peaches, pears, &c.

With grapes, Mr. Smith has also been very successful. He has quite a vineyard of hardy kinds, and raises a quantity of grapes every year. Two or three kinds which he has experimented with, have proved valuable and hardy, and must soon become popular. In all he has thirty-seven varieties.

He handed us on Saturday a specimen of raspberries, containing about a dozen ripe and partially ripe ones on a vine. To gather ripe raspberries on October 21, is rather a novelty in this country. They are of the "Belle de Fontenay" variety, and are very large and luscious.

Some rhubarb and tomatoes which he handed us, are particularly fine, and considering the season of the year, are a remarkable yield.

Mr. Smith's experiments in fruit and vegetable raising have been conducted at great expense to himself, but will result in great good to the community, and we hope he may be abundantly rewarded for his expenditures. If any of our citizens wish to see model gardens, conservatories, nurseries, vineyards, &c., they should call on Mr. Smith. He has a neat and well kept place, and will show it to visitors with pleasure.—*St. Paul Pioneer*.

THE 48TH ANNUAL MEETING of the Hampshire Franklin and Hampden Agricultural Society was held at Northampton, Mass., Jan. 3d, and MILO J. SMITH, was elected President in place of H. S. Porter of Halfacre, declined. Vice-Presidents Elnathan Graves, Williamsburgh; John W. Hubbard, Northampton; Rodney Smith, Hadley; Andrew T. Judd, South Hadley. A. P. Peck, Northampton, Secretary; Albert R. Parsons, Northampton, Treasurer; Os-

car Edwards, Northampton, Auditor. The Society is in a prosperous condition and looking towards a vigorous and green old age.

THE article on Tomato Culture, page 391, of December HORTICULTURIST, should have been credited to the *American Agriculturist*, published by Orange Judd & Co., No. 41 Park Row, N. Y., at one dollar and fifty cents per annum. Whenever a really good thing is found floating about without credit, it will be safe nine times out of ten to credit it to the *Agriculturist*.

DENVER, COLORADO, Dec. 17, 1865.

GENTLEMEN :—I have concluded to put the price of one bushel of potatoes into papers and monthly's, for the family, so yours is included, the price of potatoes now being 20 cents per lb., or \$12 per bushel. Please direct to Denver, Box 366.

Yours respectfully, L. K. PERRIN.

WILD COTTON OR WILD WEED.—My attention has recently been directed to the very silky and beautiful fibre of this plant which grows so abundantly in the waste places throughout Pennsylvania, and as it ripens in season, why could it not be turned to some practical use? A young lady, of Reading, Pennsylvania, gathered, spun and knit a pair of stockings, from the wild cotton plant. No doubt they were beautiful, as the fibre is apparently equal to the finest silk.

Have any of your readers tried what effect cultivation would have on the plant? It would, probably, greatly improve the staple. What would the cotton of commerce be without cultivation?

I send a small specimen herewith for your examination.

J. M. H.

We think a difficulty would be found in manufacturing thread or yarn from this plant from the shortness and want of strength of the staple. Have any readers had experience?

ISAAC PULLEN, Esq., of Hightstown, N. J., has furnished us with the following list of peaches which he considers unexceptionable for market culture :

Hale's Early,
Tioth's Early,
Large Early York (not the serrate.)
Crawford's Early,
Old Mixon Free,
Stump the World,
Crawford's Late,
Ward's Late,
Jaques Rare Ripe,
Smock Peach.

MR. A. M. BURNS writes us as follows from Manhattan, Riley County, Kansas :

"This is believed to be the most westerly point, east of the Rocky Mountains, where the grape is yet grown. I have cultivated the Concord, Diana, Delaware, Clinton, Catawba and Isabella successfully, and since 1859 have had fruit; have never seen a diseased berry or a mildewed vine in nine years, which shows that this climate is especially adapted to vineyards.—Here, too, land is good and cheap, and homesteads may be had for the occupancy. I have many new varieties on trial, such as the Iona, Israella, Allens' and Rogers' Hybrids, Hobb's new Seedlings, Yeddo, &c., and wish to test this climate for all and every new grape that has merit. Our success, thus far, induces us to believe that almost any grape will do well here. If your friends will send me any by mail, I will test them carefully and report on them in due time through the *HORTICULTURIST*. Ask them to send me priced and descriptive catalogues.

The State of Kansas has located the State Agricultural College at this place.

MR. GEORGE N. STACK, of Long Branch, New Jersey, desires to inform his neighbor, Mr. S., through the *HORTICULTURIST*, that to induce fruitfulness in a barren orchard, which has been over stimulated by high

manuring, with pruning to match—causing exuberance of growth—he must—

1st. Stop manuring so heavily or plowing so deeply.

2d. Stop severe pruning, removing only weak and crowded branches, allowing the trees (standards) to take their natural form.

3d. Dig a trench eighteen inches deep around each tree, six or seven feet from the trunk, and cut off all the roots that can be cut with the spade.

SWEET is the hum of bees, dire is the song of gnats and mosquitos; gaudy is the clothing of the butterfly, noisome the contact of vermin; costly are the products of the silk-worm and the cochineal; ruinous the ravages of the weevil, the curculio, the army-worm and the locust. But in our latitude we have fewer destructive and annoying insects than are to be found in regions nearer the tropics. We have fewer entomological beauties and fewer entomological plagues, for which we ought to be thankful. It is true, however, that we have, after all, plenty of insects even here; but the extreme minuteness and unimaginable variety and transformations of these creatures forbid the enterprise by which ordinary students might become familiar with their classes and habits. When we have learned their forms, we cannot comprehend or even guess at their senses—their inner mode of life. The study of entomology is, therefore, not only complicated and perplexing, but, regarded as a science, unsatisfactory. For example, it is doubtful whether insects possess the faculty of hearing, or how many of the five senses they do possess. They appeal, it is true, to all our several senses, in turn, whether they can hear or not the maledictions we bestow upon them in return.

An intelligent bee-master and good gardener says that he "fired off a gun close to a hive containing a swarm of bees; they only stirred slightly; but shaking them disturbs them much more than any noises."

Their slight stirring might have been the result of the concussion of the air, rather than the noise of the report. If they do hear at all, their scale of audible sounds has been conjectured to lie far at the top of ours, and so to be a nullity for our ears from the highest to the lowest note which it contains.

The kind of sight that must be the result of looking out through a thousand microscopes, is difficult for us to realize; the language of the antennæ is more untranslatable than any cuneiform inscription. For bees, and a few others of their class, there will ever be a genuine fellow-feeling, as well as a selfish interest arising from considerations of profit; but the mob of creeping and flying insects will secure no hold on popular favor.

WHAT is Conchology, as seen in museums and cabinets, but a collection of husks and rinds of things that are dead and gone? We treasure the envelope, having lost the letter; the book is destroyed, and we preserve the binding.

Not one person in a hundred who decorates his apartment with shells, can tell whether the living creatures they once contained had eyes or no eyes, were fixed to the rock or drifted with the sea-weed, were purely herbivorous, or, by an insinuating but unamiable process, dieted on the vitals of other mollusks, their neighbors, and were, therefore, as we might say, *ichthonivorous*. The Radiata, and the rest of their allied tribes, are still less inviting to the common run of men and women, since they puzzle and worry even philosophers and practised naturalists. We are told that Mr. Charles Darwin, one of the most celebrated and patient naturalists of the age, has been, for some time past, engaged upon the barnacles, and has well nigh been driven to despair by the slipperiness of their character.

But the study of Botany may be made easy and interesting to all who have any taste for self-culture. From garden, and

meadow, and wood, we may gather grasses and flowers and leaves, which, being neatly preserved and classified, cannot fail to furnish interest and pleasure. The field of observation is illimitable; the number of specimens that may be gathered without going out of our way, or loss of time, is beyond reckoning, and the uses of all this knowledge, even incidentally acquired, will be invaluable.

KINGLAKE is the most brilliant, and probably the most accurate, sketcher of scenery and incident among modern travelers. His description of the gardens of Damascus, which seem to have remained unchanged from the olden years of Sacred History, is quite worthy of a place in our Table.

The Holy Damascus, this earthly paradise of the prophet, so fair to his eyes that he dared not trust himself to tarry in her blissful shades—she is a city of hidden palaces, of copses, and gardens, and fountains, and bubbling streams. The juice of her life is the gushing and ice-cold torrent that tumbles from the snowy sides of Anti-Lebanon. Close along on the river's edge, through seven sweet miles of rustling boughs and deepest shade, the city spreads out her whole length: as a man falls flat, face forward on the brook, that he may drink and drink again, so Damascus, thirsting forever, lies down with her lips to the stream, and clings to its rushing waters.

Wild as the nightest woodland of a deserted home in England, but without its its sweet sadness, is the sumptuous garden of Damascus. Forest trees, tall and stately enough, if you could see their lofty crests, yet lead a tussling life of it below, with their branches struggling against strong numbers of wild bushes and wilful shrubs. The shade upon the earth is black as night. High, high above your head, and on every side all down to the ground, the thicket is hemmed in and choked up by the interlacing boughs that droop with the weight of roses, and load the slow air with their damask breath. The rose-trees which I

saw are all of the kind we call *damask*; they grow to an immense height and size. There are no other flowers. Here and there there are patches of ground made clear from the cover, and these are either carelessly planted with some common and useful vegetable, or else are left free to the wayward ways of nature, and bear rank weeds, moist-looking and cool to your eyes, and freshening the sense with their earthy and bitter fragrance. There is a lane opened through the thicket, so broad in some places that you can pass along side by side—in some so narrow (the shrubs are forever encroaching) that you ought, if you can, go on first, and hold back the bough of the rose-tree. And through this wilderness there tumbles a loud rushing stream, which is halted at last in the lowest corner of the garden, and then tossed up in a fountain by the side of the simple alcove. This is all. Never for an instant will the people of Damascus attempt to separate the idea of bliss from these wild gardens and rushing waters.

AN INTERESTING companion-piece to the above fine picture is found in *Fortune's Wanderings in China*.

The gardens of the Mandarins, in the city of Ning-po are very pretty; they contain a choice selection of the ornamental trees and shrubs of China, and generally a considerable number of dwarf trees. Many of the latter are really curious examples of the patience and ingenuity of this people.—Some are only a few inches high, and yet seem hoary with age. Not only are they trained to represent old trees in miniature, but some are made to resemble the fashionable pagodas of the country, and others different kinds of animals, amongst which the deer seems to be the favorite. Junipers are generally chosen for the latter purpose, as they can be more readily bent into the desired form; the eyes and tongue are added afterwards, and the representation altogether is really good.

When I was travelling on the hills of Hong-kong, a few days after my first arri-

val, I met with a most curious dwarf *Lycopodium*, which I dug up and carried down to Messrs. Dent's garden. "*Haiyah!*" said the old compradore, and was in rapturous delight. All the coolies and servants gathered around the basket to admire the curious little plant. I had not seen them evince so much gratification since I showed them the Old Man Cactus (*Cereus Senilis*) which I took out from England, and presented to a Chinese nurseryman at Canton. On asking them why they prized the *Lycopodium* so much, they replied, in Canton-English—"Oh, he too muchia handsome; he grow only a leete and a leete every year; and suppose he be one hundred year onla, he only so high," holding up their hands an inch or two higher than the plant. This little plant is really very pretty, and often naturally takes the form of a dwarf tree in miniature, which is doubtless the reason of its being such a favorite with the Chinese.

THE AUTHOR of *Barren Honor*, says:—Misanthropy is the worst of all philosophy—Epicurean or Stoic, seductive or repellant; it *will* fail just at the critical time of trial, and its latest pang will be the sharpest of all. The tough, self-reliant character that meets misfortune savagely and defiantly, like a personal foe, holds its own will for a while; but if there be not faith enough to teach humble, hopeful endurance, I think it fares best in the end with the hearts that are only—*broken*.

There was no misanthropy, nor mere self-reliance and pride, in the patience and silent dignity exhibited by *Marie Antoinette* during her long trial of bitter suffering. She possessed a faith—a sense of religion—that never deserted her, whatever her weaknesses of character and inconsistencies. And how mournful, beyond words, was her fate. Her sufferings date long before she became a captive, and was menaced with ignominious death. Almost from her first arrival in France she had been exposed to misrepresentation and calumny. Young and beautiful, and a queen as well as a woman, she

had long been the butt at which "the most polite and chivalrous nation in Europe," were leveled. We are told that when she walked in the Gardens of St. Cloud, the very children followed and insulted her. Allusions against her were eagerly seized in every theatre, and the lieutenant of police had to beg that she would no longer come to Paris, as he could not answer for the consequences of her presence. Every class seemed bent on ascribing to her the misery of the nation. The nobles calumniated her; the people called her Madame Deficit. She bore all in silence; but every insult, every proof of hatred she received, sank deeply into her heart. Her beauty, once so fresh and dazzling, gradually faded away; her cheek became pale and thin; her eyes grew dim with weeping, and with nights of anxious vigils. The sunny smile, which lent so great a charm to her expressive countenance, visited it no more. If she saw not yet the terrible future, she was haunted by the shadow of dark foreboding thoughts, and a secret terror filled her breast whenever she asked herself what fate awaited her, her husband, and her children. Through every fear and trial she maintained, however, a bearing more composed, more truly royal, than that which had marked the days of her splendid prosperity.

She was doomed to drink the cup of sorrow to the dregs, and death itself was grudged her till all she held dearest had been murdered and tortured before her eyes.

"Beyond the infinite and boundless reach
Of mercy"

are the perpetrators of those crimes by which she and hers suffered so bitterly. Most of them, indeed, paid the penalties of their crimes here in the flesh, but the deathless reproach of the nation that endured them has not been expiated. Years of revolution and blood have not sufficed to wipe it off, and it may be that a deeper retribution is yet in store.

BOOKS, &c, RECEIVED.

TRANSACTIONS OF THE ILLINOIS STATE HORTICULTURAL SOCIETY for 1864, at its Ninth Annual Meeting, with Constitution, Act of Incorporation, Horticultural Laws, etc.

CATALOGUE of Officers and Students of the State Agricultural College of Michigan, 1865.

CATALOGUE of Plants, with full description, &c., of the Kittatinny Blackberry, E. Williams, Mont Clair, N. J.

DESCRIPTIVE CATALOGUE of Roses, Fruit and Ornamental Trees, Flowering Shrubs, Vines, Green-house, Hardy Plants, &c., cultivated and for sale by G. Marc, Astoria, N. Y.

DESCRIPTIVE CATALOGUE of Apple Trees raised and for sale by D. L. Adair, at the Sandy Side Nurseries, near Hawesville, Kentucky.

P. & E. TRANSON BROS.' NURSERIES, Orleans, France. Nursery Trade List for Autumn of 1865 and 1866. Messrs. Knauth Nachod & Kuhne, 28 Broad-street, N. Y., agents.

CATALOGUE of exclusively Hardy Plants and Nursery Stock, for sale at the Nursery of Eugene A. Baumann, Milton Nursery, Rahway, N. J.

WHOLESALE CATALOGUE of Fruit, Evergreen and Ornamental Trees, Shrubs, Stocks, Roses, &c., for the Autumn of 1865 and Spring of 1866, offered for sale by John Saul, Washington, D. C.

CIRCULAR, REPORT on Grapes and Grape Growing, by J. Paul Sacksteder, Louisville, Kentucky.

LIST of Grape Vines, Fruit Trees, &c., for sale by E. Miles, Sag Harbor, Suffolk Co., L. I., New York.

THE HORTICULTURIST.

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A DISCOURSE OF WINTER.

SPRING is here, according to the calendar, but not so in actual experience; and therefore, while winter still broods over all northern climes, it may not be unsuitable to consider some of its characteristics, and perchance to gather up a few of its lessons. He who taught His followers from the summer lilies, doubtless also instructed them from the aspects of nature in winter.

To the eyes of most people, winter is a season of desolation and gloom. The flowers are dead; the bees and other insects no longer hum; the song-birds have left the sky; the leaves have fallen from the trees, and are whirled, withered and dead, upon the blast. The streams are locked in ice; and snow, like a heavy shroud, is spread over all the earth. Vegetable growth has ceased, and even vegetable life is dormant, if not wholly extinct. The sun rides low in the heavens, and, with its cold and slanting beams, gives but a brief day.

But this is not the whole truth: Winter has other and more cheerful aspects. There is life amid this seeming decay and death.

Vegetation absolutely requires a period of rest, and winter is its opportunity. The bees are napping in their cosy cells; the birds are not destroyed, but are gone on pleasure excursions southward, looking after their possessions and friends around the Gulf. The streams and lakes are frozen—are they? Well, they make fine skating-parks now, and are having an eye to the creams of next August. What could civilized man do without their sparkling crystals to cool the summer heats? It would be a heavy loss to northern commerce, if its cargoes of ice were dissolved. The leaves have fallen—have they? Well, they were ripe, and of no further use to the branches, and by their fall they will now help to fertilize the ground and to promote the trees' growth in succeeding years.

Frost, which in some respects is destructive, is also preservative. It checks the too rapid decomposition of vegetable and animal matters, and by purifying the air prevents disease and promotes bodily health and vigor. Who does not know, by expe-

rience, that the return of the cold season, after the debilitating heats of summer, produces an exhilaration of spirits and gives a new accession of physical strength? A friend of the writer, who spent several years in Bogota, relates that, while at first the perpetual summer was a perpetual delight, afterwards it became monotonous, tiresome, and weakening to body and mind, and that he often longed for the refreshing winds and frosts of the north. If the inhabitants of northern countries possess any superiority over those of southern lands, it is owing largely to the influence of their climate. It is in cold countries that home is most tenderly loved, and fireside virtues most vigorously flourish.

"Oh Winter, ruler of th' inverted year,
Thy scattered hair with sleet like ashes filled,
Thy breath congealed upon thy lips, thy cheeks
Fringed with a beard made white with other snow;
Than those of age, thy forehead wrapp'd in curls,
A leafless branch thy sceptre, and thy throne
A sliding car indebted to no wheels,
But urged by storms along its slippery way,
I love thee, all unlovely as thou seem'st,
And dreaded as thou art! Thou hold'st the sun
A prisoner in the yet undawning east,
Shortening his journey between morn and noon,
And hurrying him, impatient of his stay,
Down to the rosy West; but kindly still
Compensating his loss with added hours
Of social converse and instructive ease,
And gathering at short notice, in one group
The family dispersed, and fixing thought
Not less dispersed by daylight and its cares.
I crown thee king of intimate delights,
Fire-side enjoyments, home-born happiness,
And all the comfort that the lowly roof
Of undisturbed retirement, and the hours
Of long, uninterrupted evening, know."

One of the most marked features of winter is its snow. This interferes with some of our pleasures and profitable labors. The tourist and landscape-painter will seldom flounder through snow-banks in quest of fine scenery. The botanist—where are the flowers he loved so well? The geologist, entomologist, and indeed the student in almost every department of natural science, finds his sphere of observation reduced to narrow bounds. The gardener must hang up his shovel and hoe, and the farmer can

no longer sow and reap and gather into barns.

Yet there is a bright side to this picture. The snows which block up our roads and fields bring with them a partial compensation for the discomforts they produce. The old proverb that "snow is the poor man's manure" is believed to have its basis in scientific fact. Chemical analysis finds a larger per centage of ammonia in snow than in rain. This at least is true, that snow is a powerful absorbent, purifying the air and returning the impurities as fertilizers to the soil. Melt in a clean vessel a mass of snow which has lain a short time on the ground, and the taste will detect foreign elements in the water. This is most apparent in the neighborhood of large towns, where the atmosphere is more or less impure. The harshness and dryness produced in the mouth by drinking snow-water, and the unpleasant effects on the skin by washing in it, are ascribed to the impurities it contains. The disease called *goitre*, prevailing in Alpine regions, is also attributed by some to the use of snow-water.

A certain writer illustrates the absorbent power of snow thus: "Take a lump of snow (crust answers well,) of three or four inches in length, and hold it in the flame of a lamp; not a drop of water will fall from the snow, but the water, as fast as formed, will penetrate or be drawn up into the snow by capillary attraction. It is by virtue of this power that it purifies the atmosphere, by absorbing and retaining its noxious and noisome gases and odors." Snow also absorbs exhalations from the earth, and returns their fertilizing properties to the soil. Hence, marshes and stagnant pools become inodorous in winter, and the unwholesome effluvia of vegetable matter everywhere decaying is retained, and with the melting of the snow in spring is given back to the earth. So much as this, at least, we fully believe, that "the poor man's manure" is as efficacious as some of the patent fertilizers of the day; and it is a great deal cheaper.

Moreover, we are told that snow actually

nourishes a species of animal life. Dissolve a handful of snow in a glass of water entirely free from *infusoria*, and you will soon discover a multitude of animalcules moving about in it full of life. Every one has read of the famous "red snow" of the Arctic regions, which is only another exhibition of this microscopic race.

Snow helps the springs and mill streams in winter. Were the ground naked from fall to spring, and frozen meanwhile several feet deep, the springs would dry up, and water-wheels of every description would stand idle. As it is, however, the snow prevents the frost from penetrating to a great depth—especially among the wooded hills, which are the fountain-heads of springs and streams—and by their gradual melting keep up a supply of water for man and beast.

Not the least important use of snow is the protection it affords to tender vegetation. Even in northern latitudes, there is a multitude of tender and half-tender indigenous plants which require more or less protection in winter. Nature provides for them most wisely. She hangs over them the branches of neighboring trees and bushes, gathers about their roots a many-folded blanket of dry leaves, and last of all spreads over them a fleecy mantle of snow. With this covering, they pass through the coldest winter safely; when if transplanted to exposed situations they would certainly perish. But besides, our gardens and fields are stocked with plants and grains which are natives of warmer climates, and need protection still more. Sweep off the snow from our wheat fields and meadows, and at least a portion of the crops would be winter-killed. Some of the choicest herbaceous plants in our gardens, brought from milder regions, will pass unharmed through the severest winters, if only they are covered with snow. So of many tender shrubs. With their branches fastened to the ground, they hibernate in Canada as well as at the

tropics. The buds of peach trees are often killed in severe winters, while if a few branches happen to get bent under the snow, they produce a splendid show of fruit. Scientific travelers in Siberia have recorded instances in which, with the temperature of the air above the snow at 72° below zero, that beneath was 29° above zero, showing a difference of 100°. Dr. Kane, in his "Arctic Expedition," mentions finding underneath the snow, at latitude 78°, "the andromeda in full flower, and saxifrages and carices green under the dried tufts of last year." * * * "Here, too, the silene and cerathrium, as well as the characteristic flower-growths of later summer, the poppy and sorrel, were already recognizable." * * * "Few of us at home," he continues, "can realize the protecting value of this warm coverlet of snow. No eider-down in the cradle of an infant is tucked in more kindly than the sleeping dress of winter about this feeble flower-life."

When the snow falls early in winter and remains until spring, the ground is seldom frozen at all; and if frozen a few inches deep before the snow falls, the heat of the subsoil thaws out the frost above it, and the superincumbent snow prevents another freezing, so that in early spring the ground is soft and ready for the plow and spade.

Did the space allotted us in these columns allow, we might speak of the opportunity which winter affords the farmer and his household for mental and social culture; of the beauty of the snowy landscape when lighted up by the sun; of the brilliancy of the winter sunsets; the peculiar depth and purity of its skies, and the lustre of its stars; of the pleasure of noting the first indications of approaching spring, and their steady increase until "the time of the singing of birds is come, and the voice of the turtle is heard in the land;" but here we must stay our pen.

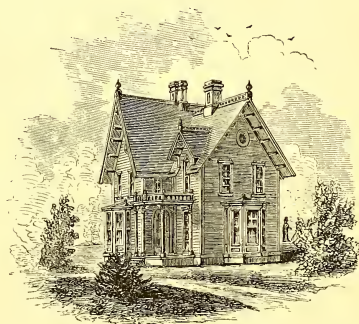
A. D. G.

DESIGN FOR COUNTRY HOUSE OR PARSONAGE.

BY REV. P. D. OAKEY, JAMAICA, L. I.

THE desire to produce pleasing effects in the structure of country houses has much increased the past few years. The gratifying evidence of this is forced upon our attention on every line of travel. Every one who contributes to this taste is so far a benefactor to his kind. It has this plea for universal adoption, that while it violates no principle of utility, it elevates mentally and morally only by the exercise of correct judgment without expense. I speak of it in its simple, and therefore purer forms of cottage building.

It is thought that the plan here submitted will commend itself to the taste of those who, having a moderate income—and such constitute the bulk of society—and who, having no money to lavish upon merely useless show, would have enough variety in style, solid embellishments, convenience of arrangement, rooms of suitable size and number—affording sufficient retirement and accommodation as shall combine to produce a pleasing impression, externally and internally, upon which the eye of the stranger is welcome to rest, and make the happy

FIG. 28.—*Perspective.*

and contented family feel that they have a *home*, the endeared remembrances of which will never leave them till a home on earth is needed no more.

Some of these effects, we think, may be realized in this plan. Enter the gate, and by a neatly-trimmed winding-path step upon the veranda and look for yourself. It is situated on a village lot, say 65 feet front and 200 deep. It is not built large in front, so that space may intervene on either side for shrubbery and trees to secure seclusion and keep out intrusive eyes

of neighbors. Yet, in the dining-room a bay window commands a street view. It fronts the east, and hence the rooms used have a southern aspect. The veranda itself is worthy of a passing notice, as it is ample, compared with the size of the house, and its form in keeping with the bay windows that diversify and give character to the exterior. I would not make the path to the veranda direct in front of it, at right angles with the street, but from a gate near the southern corner of the front lot by a gentle serpentine line, and thus

leave the space of the front yard opposite the parlor window unobstructed, for the exhibition of taste in cultivating some of the smaller flowers and shrubbery, which, with a closely-shaven grass-plot, as the groundwork, never fails to awaken a sense of pleasure.

But the entry-door is open—(it opens readily to its friends). Look in! You

would have the hall go all the way back? Well, that *is* the old-fashioned way, but it has not the beauty of *utility* to recommend it. There is no need of it, and the open seams of the “back door” only made sluices for Boreas of the north storm to whistle his ghostly stories through of dark nights, as it used to seem to us in our childhood. Besides making a warmer house, we have

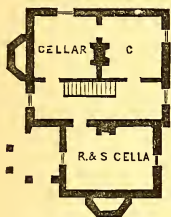


FIG. 29.—Cellar.



FIG. 30.—1st Floor.



FIG. 31.—2d Floor.

made better use of that space, as you shall see when we get to it; and economy in fuel and space are two important items since the strike in the coal regions of Pennsylvania and the high price of material.

FIG. 32.—1st Floor differently arranged.
(not referred to in description.)

But in the meanwhile, step a moment into the parlor. It is not overlarge, but cozy, well lighted, well ventilated, and sufficiently large enough for ordinary families, its marble-manteled fire-place offsetting its bay

window which enlarges the room, and gives to it an air of refinement, its north and south windows equalizing each other, the one shielded from the rays of the sun by opening under the shade of the veranda, while in the space on the right of the fireplace, is just the place for the piano. But cross into the dining or sitting-room, and observe, in passing, that its door opens right opposite the front door, so that when the dog star is in the ascendancy and air is desired, you can sit with both doors opened, having a pleasant front view unexposed. This room is of proper capacity, has a good china closet, a plain marble mantle, an end window commanding the garden, and a bay window giving a pleasing effect to the whole, and raising the whole above the monotonous style of mediocrity. As this bay window is quite roomy, 8 feet in the clear, and as it is supposed to face the south, in winter time it would make quite a pretty conservatory for house plants, which, if properly cared for, contribute much to the cultivation of a correct taste. The enjoyment of life consists not so much

in great things as in extracting items of pleasure from little things. The cultivation of a single house plant—the architectural order of a room—the proper disposition of furniture—never go without their proportionable reward.

From this room, access to the kitchen is easy. That kitchen is an important place ; it wants good light, a good fire-place, a large closet, a cistern pump, and waste-pipe, easy access to the yard and cellar, and it has them all. A short passage-way leads from these rooms to the cellar steps under the stairway, and to the main hall. Also from this passage-way a door opens into a small chamber, which I have designated as a store-room. This is a useful apartment, and while it wants to be out of the way, it needs to be near the kitchen and sitting-room. This room we have stolen from the hall. Our Biddies are not all above suspicion ; and where they have so many cousins, all “*decent people sure,*” keeping house, sugars and teas and soap have the faculty of disappearing with marvelous alacrity. The good housewife loves to have the key of one door, where her household treasures may be safely stored, where she may be the almoner of her own bounty, without the aid of Miss Culinary Sly, through whom she may be supporting two or three families of the faithful, “*unbeknowast*” to herself. Or if Biddy is honest, and this room is not wanted for this purpose, it might, upon a pinch, be used for her sleeping-room ; or if the proprietor wanted a little office to keep his books, papers &c., here, separated from other

apartments, is the place. I hope you don’t smoke ; but if you are guilty of that much-condemned practice, here is just the place for you and your friend to chat, and puff your smoke out of the north window, without intruding the aroma of the filthy weed into any other part of the house. If, as Downing says, the poet Cowley confessed to a love for little things, here in this back hall little room, he might indulge his diminutive poetic idea to his satisfaction.

Let us go up stairs. Everything here speaks plainly for itself, so I will not detain you. The rooms are quite large, all have closets, and can be heated, except the small hall chamber, by stoves. Stove-pipe holes are in the chimneys, and swinging sashes over the doors to give ventilation. The chimneys are inside the building, so that all heat is saved. A clothes’ room, which might be made a bath room, opens into the large chamber adjoining. The walls are filled in with brick. The roof projects, and the gables have large boards of stout plank. It is thought that in the external appearance of this house, and the order of the rooms, there are advantages pleasing to a good taste and conducing to the comforts of every-day home life.

This house, as it has two fronts, would be a very good plan for a corner house.

I omitted to say in the proper place, that, placing the closet in the front hall up stairs in the chamber, there would be room for a stairs, over the other stairs, into the attic story, where there is space for three pleasant bed-rooms.

PEACH TREES IN POTS.

BY GERALD HOWATT.

Growing Peaches, Nectarines, Apricots and other stone fruit has not attained the attention and care that they ought to have. I mean the growing of them in pots ; the simplicity of it is not generally understood ; they require no more attention than any other ordinary stove or greenhouse plant.

Pot culture is carried in Europe to a very great extent, and I must certainly say that our facilities on this continent are far ahead of Europe, the principal feature of which is, our fine clear and hot weather. As the great desideratum in growing peaches, nectarines, &c., is to get our fruiting wood well ripened.

When this point is attained, you can easily master the other difficulties with a little attention. The following is my system of growing and treatment from the time of receiving from the nursery to their fruiting. In selecting soil, I take a good strong loam one spade deep, leaving the grass on. I usually get this from the side of the road or along an old fence. If it can be got in the fall, and thrown in a heap all winter, so much the better; but my usual way is to take it direct from the fences to the potting shed and use it. I have tried it both ways, letting it be six months, and turning it right in and using it, and never noticed a particle of difference in the growth or fruit. If it is a stiff loam I mix it with charcoal dust, enough to make it free. I allow one quart of bone dust, the coarser the better; this keeps the soil porous, and is, in my practice, the best stimulant for those fruits. I give my plants the first year, three shifts, two in growing pots, and the third into the fruiting pot. A quart of bone dust is divided into three parts; at the first potting put one part, the second potting the next part, and the third potting the balance. I use no manure in my potting. The tree on arriving from the nursery will look like this



FIG. 33.—*Tree as received from Nursery.*

I then cut them down to ten or twelve

inches above the roots, looking like this—



FIG. 34.—*Tree Pruned for Potting.*

pruning the roots well, only leaving enough fibres to start the growing. The plants that I use are only one year old from the bud maiden trees. My first pot is two gallons; that is, eleven inches deep and ten diameter. In potting I keep the neck of the tree over ground; that is, leave your roots for about three inches thus



FIG. 35.—*Tree in Pot.*

on the surface of your soil. My reason for adopting this system is that the borers can be more easily detected if, unfortunately, they should show themselves. At your first two pottings do not let your earth come to the top of your pot. Keep it one inch below this to hold the water; in your third shift or fruiting pot, keep the earth two inches below the top of your pot; this is to give room for mulching with manure. Now the time for potting must altogether depend on your facilities for starting the trees. If you have pits to keep them in until the middle of May, at least until settled weather, I should advise the first potting to be done in March; this gives a fine long season for growth if that is the case. After potting, water with a rose just sufficient to settle the earth around them, and afterwards very sparingly until they commence to break (grow). I will state one particular item here, that is your drainage. Put one large broken shred on the hole, the hollow down, which leaves a space between the bottom of your pot and

your shred ; then other pieces around that, and cover the whole bottom of the pot ; when finished let it look like a saucer turned upside down, high in the middle and falling to the sides. My fruiting pots I have the holes cut with a cold chisel three inches by two. When you pot first do not plunge them, nor until they have made about four inches of growth. This is obvious, as you will bear in mind that there are but few roots to start with, and the weather being chilly, you want the heat on your pots (sun), to start the growth of the roots. After a little the new earth will cleave from the side of the pot ; let that at all times be rubbed around with the finger, for if watered without doing this, the water will all run between the ball and the side of the pot, leaving the heart of the plant perfectly dry. If the water should lie on the top of your pot, then there is something wrong in the potting or drainage ; if so, turn the plant out and examine it, and rest assured you will find something wrong. I should have mentioned, in all the pottings, gather the lumps and grass, and place them on top of open shreds at the bottom of pot ; then fine earth around your roots, the best as it comes. In all the shiftings look out for worms ; they are easily discovered by their holes. I generally sprinkle quick lime on top of the pot (on the earth), which draws them out. That's the foundation. When the plants have made shoots six inches in length, select the four strongest for your permanent tree, or branches, and cut off the stem to the upper branch, thus :



FIG. 36.—*Tree at First Pinching.*

By this system you get more fruit, and

your tree looks better, and you get more trees into a given space, which is a great object when the present price of glass and tradesmens' wages are taken into consideration ; and I do not see the beauty of, or in an umbrella top. When the shoots are from twelve to eighteen inches in length, I stop them, that is, I pinch the top off to make them throw out fruiting wood ; when five and six inches long I again stop them, and so on all through the season ; when the wood is too thick, and likely to crowd the middle, remove those shoots that are growing to the middle, and remove all water shoots, no matter on what part of the tree they are, as they are useless, those shoots are not much thicker generally than a straw, and runs from the branch about 3 or 4 inches without showing an eye of either fruit or wood. In the middle of May plunge your pots, that is, insert them in the ground up to the rim and from three to four feet apart. From the first starting of your potting, you should syringe your plants every morning with a good force pump, and do not be afraid to use it strong. This makes your plants break well. After the 1st of June, syringe them twice a day, morning and evening. If you have not a barrel syringe, use the next best thing, a hand one, and in syringing be careful and apply the water to the bottom of the leaves as it is there where rests our great enemy, the red spider ; they are easily detected, by turning over the leaves you will see them. They look to the naked eye as if the leaf were dusted with red pepper, but a practiced eye can detect them at a glance at the surface of the leaf without examining it ; the leaf that has them on will look of a dirty white appearance. Beware of them, for if they get on your plants, all your trouble is gone for nothing. Syringe as directed and you can tell them do their best. About the first of June your plants will be in a condition to receive liquid manure. In applying this you must use a good deal of judgment. If the

plant is weak, give it no stimulant. As a general thing, let it be very weak. When I can get liquid from the barn-yard, I prefer it. The first year I use it half-and-half; that is, half water and half liquid. If I cannot get that, I sink two hogsheads in the ground, to within a foot of the top; one I keep for clean water, for syringing, watering and diluting my liquid manure. Into the other I put one peck of Peruvian guano; fill up with water; stir well up until dissolved. When used, add one half clean water to this half. In watering stove, greenhouse or other plants, with liquid manure, never apply it when your plants are dry. If you do it will kill them. My plan is to water with clear water in the evening, and the liquid in the morning. By adopting this, no risk is run in any way. In June, water your Peaches, Nectarines and Apricots, if in good health, twice a week with this liquid; July, and up to middle of August, three times a week; after that, give them no liquid, as you must now prepare to ripen and harden your wood. If you have attended to the stopping and displacing of all superfluous wood, your plants will by this time have made a fine appearance. My second shifting, I should have said, would be about the 1st of June, into four gallon pots that are thirteen inches deep and twelve in diameter. For this you must use your own judgment. You will see the roots protruding from the hole in the bottom; then take them out of the pot, and if the roots are all around the ball, repot them; be sure, in potting, to leave no spaces between the ball and the pot; in potting, use a flat stick, two inches wide, and bevelled at the point, so that it will not, if it should come in contact with the roots, cut or bruise them, rounding or half-rounding it for the breadth of a hand from the top. In using it, shove it backwards and forwards, so that you make your potting compact, and do not stamp your pot up and down on the potting-bench to break off the fibres, like a paver with his mallet on

stones. My last shift I do from the beginning to the middle of August into my fruiting pots or boxes. If pots, they should be six gallons, well drained, and coarse stuff at bottom. I like to have my fruiting plants pot-bound, that is, the roots grown to the outside of the ball. As the after-nourishment of the trees and fruit, I depend on liquid manures and manure mulching. Care must be taken not to let the trees, during the summer, become dry, that is, hard dry, in very warm weather; and while they are making rapid growth, they must be watered perhaps twice a day, and when watered at this stage, let it be done copiously, enough to saturate the whole mass of earth. The drainage will carry off the superfluous water. You can easily detect when they are not properly watered by knocking on the outside of the pot

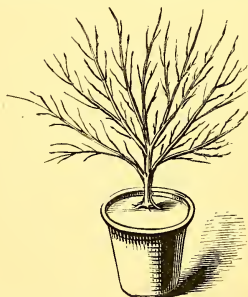


FIG. 37.—*Tree at end of First Year.*

with your knuckles; if not properly watered, the pots will sound as if they were empty. On or about the first of October, I remove my trees to the vinery to ripen and harden their wood. This must be well attended to, for if the wood is not ripened, it will shrivel and you get no fruit. When they are in the vinery, water them about twice a week in October, as you want no growth; November, about once a week. If the foregoing instructions be carried out, your trees will now be from six to eight feet high, and from four to six feet through

—not bad, you will say, for one season's growth in pots; nevertheless, strictly true. At each potting, examine your tree for borers, just above your roots. On the stem they are easily detected; feel around the stem, if hollow, you will find the borer. The appearance of gum does not always indicate their presence. About the middle of December, remove to a dry cellar to protect from frost. If there is not a cellar, let them be laid down in the vinery and covered with straw or leaves. If this plan is adopted, there will have to be a fire kept in the house sufficient to keep the frost out. I start my peaches as I start my vines; peaches and vines being grown in the same house, making three successions. First house starts 1st of January, second, 1st of February, third, 1st of March. I only have one knife-pruning, which is done by cutting down to a fruit eye, which is distinguished by a double bud. There are single eyes that are fruit buds; those buds are round, the wood buds being long, but the single ones we do not generally depend on. Cut out all wood that does not show fruit-buds. I have a walk through the houses, thirty inches wide, a plank, eighteen inches wide, on each side, to hold in the border compost. This border I make stronger than the soil used for potting, using three parts loam and one part well-decomposed manure. Let this be thoroughly mixed; this is to support the roots that come from the bottom of the pot. I then plunge my pots to the rim, and so close that the branches of each plant nearly touch. Stop them when growing, as mentioned above. I take out all superfluous wood; put on a mulching of cow dung on top of your pot, leaving one quarter of an inch to hold water (as it will shrink); syringe twice a day with water, same temperature as the house. When your buds begin to swell, use twice a week, in watering, one-third part liquid manure; as they progress, use one-half liquid, and use it three times a week; when in flower, water moderately, rather keep-

ing them dryish, and avoid syringing until your fruit is set; keep a moist heat, by keeping the floors wet. If your houses are heated by hot water, keep your troughs well filled, as it evaporates; if by flues, and no troughs on them, keep pans well filled with water. Let all the fruit that sets remain; don't thin any, as your plants are strong enough to ripen all, and if too thin, they are liable to crack.—About a week before they are ripe remove them to the open air, and plunge your pot about six inches and water very sparingly with clean water—in fact, keep them nearly dry. This will give your fruit a fine flavor and a good color. In removing the trees from the house, cut all the roots off that have grown from the bottom. When



FIG. 38.—*Tree in Fruit, Second Year.*

the fruit is gathered, plunge the pots to the rim in a south or east aspect, to ripen the wood, and use no more liquid manure until you commence forcing the following season; keep the syringe going. This treatment is for growing in vineries, and of course the same temperature must be observed if grown in an orchard house. My temperature after the setting would be from 10 to 15 degrees higher all through. An orchard house will save the necessity of removing out-doors to get flavor. The following are the varieties that I use for pot culture:

PEACHES—Hale's Early, Haine's Early, Early York, Early Crawford, Late Crawford. George the 4th, Large Early York, Noblesse, Stump the World, Troth's Early, Red Cheek Melacatoon, Cole's Early Red, Early Tillotson, Early Newington, Gross Mignonne, Jacques Rareriipe.

NECTARINES—Stanwick, Boston, Violette Hative, Pitmaston Orange, Elruge.

APRICOTS—Large Early, Large Red, Large Early Moorpark, Peach, Kaisha, Orange. Other varieties may be added to please the taste, but I have found the above the best for forcing.

THE CURRANT WORM.

BY L. A. M.

HAVING read in the report of the meeting of the Farmers' Club, in New York, something about the *Currant Worm*, which is hardly more than a guess, very far from the truth, permit me to describe for your readers the insect in all its transformations. It is of a kind known as measuring worms, about an inch and one quarter in length, when full grown; of a bright

them daily with specimens from the gardens. With a garden trowel the earth was turned up, and the chrysalis and the worms, half contracted and incapable of motion, were exposed, precisely like those in the sand under my glasses. The chrysalis, small and almost black, would easily escape notice.

Comparatively few of the worms appear to become butterflies, but still sufficient numbers do pass the chrysalis stage to insure a bountiful supply of worms year after year.



FIG. 39.—*Currant Worms.*

orange or yellow color, finely spotted with black, is extremely active, and a voracious feeder. They begin to appear about the middle of May as a very minute, almost black worm, and increase in size and number until the middle of June, when they begin to leave the bushes for the earth about their roots. I had them under glass in all stages of growth, and compared



FIG. 40.—*Chrysalis and Perfect Insect.*

They remain in the chrysalis state two weeks, and emerge as small maize-colored butterflies, with faint gray marks on their wings. They flutter about the gardens, never staying far from the currant bushes, for ten or twelve days, and gradually disappear. All those I kept under glass died soon after their escape from the chrysalis state, and I could not discover where those in the gardens laid their eggs, but I am very sure that they are deposited upon the bark of the currant bushes. I buried a quantity of the live worms in a hole about a foot deep, packing the earth over them as hard as I could. For three days they were crawling out of that hole as fresh looking

as ever, and measuring the road to my gooseberry bushes with hungry haste. No amount of *mashing* with trowels or spades seem to kill them after they touch the ground, but they can be drowned very easily. Their name is certainly *legion*, for I have known nine hundred to be shaken from a single bush, at one time. I remember seeing the same worm occasionally some twenty years ago, but it is about seven years since they have appeared in such numbers as to become a pest. I do not see any apparent diminution in their numbers, even in those gardens where they are picked off

and destroyed daily in incredible numbers. I believe that a small lantern, set in a pan of water well soaped, would attract the moths at night, and by falling from the sides of the lantern into the water, they would be drowned, which would be a much easier way of destroying them than picking off the worms one by one with the thumb and finger, as most of my friends do. I should like to tell you about the gray worms which ate my pansies, and my *toads* which ate the worms, but I do not know as you care to hear. However, if you do, let me know and I'll tell you all about them.

ANTIRRHINUM.—SILVER BELT.

BY PETER HENDERSON.

A great acquisition to our variegated plants, being (unlike most variegations) of robust and healthy growth, leaves

glossy green, margined on each edge with white, occasionally tinted with pink; making a compact bushy plant when in bloom,



FIG. 41.—*Antirrhinum*.—*Silver Belt*.

of from 18 inches to 2 feet in height; flowers in dense spikes beautifully marked crimson and white. The plant originated

with me last season among a lot of seedlings, the seed of which I imported from Germany.

NEW SEEDLING CARNATIONS.



FIG. 42—Carnations—*Flatbush* and *President Degraw*.

THE monthly carnation being so important and desirable a plant for winter blooming in our greenhouses, to furnish cut flowers for bouquets and table decorations, we take much pleasure in presenting to our readers an illustration of two new seedlings, which were produced by Messrs. Daillédouze & Zeller, Flatbush, L. I., from seed received from the Botanic Gardens at Geneva, Switzerland.

No. 1. *Flatbush*.—Pure white, very large flower, deeply fringed, fragrant; very full plant; a strong grower and profuse bloomer.

2. *President Degraw*.—Pure white; flower very full, and of perfect form, finely fringed and fragrant; plant of dwarf habit and a profuse bloomer.

We consider these, flowers of high merit, and a valuable addition to this class of plants.

A NEW PEAR.—“MARY.”

OHIO, through Professor Kirtland, has given the pomological world many varieties of cherries, one or two pears, while other eminent fruit-growers in that State have brought out, from time to time, apples, pears, cherries, raspberries, strawberries, &c., until the State has acquired a renown for fruit-growing. Last summer, we re-

ceived two varieties of seedling pears from Mr. Christopher Wiegel, a German tree and fruit grower at Cleveland. They were both so good for their season that we at once made drawings, and then prosecuted enquiries as to their habits of growth, origin, &c.

Herewith we present drawings of the one



FIG. 43.—*Mary Pear.*

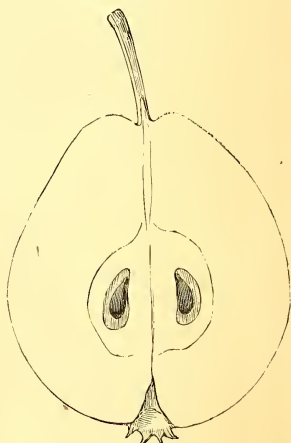


FIG. 44.—*Section.*

received by us as No. 1, and which Mr. Wiegel now names *Mary*.

Our drawings were made, as will be seen from two different specimens, with a view to get the mean size. The history of this pear is, that Mr. Wiegel, some years since, planted seeds, he thinks, of *Seckel* pear, and from the trees grown selected two to keep, because of their early coming into bearing, their upright vigorous habits of

growth, profuse bearing, and good quality of fruit.

The tree of *Mary* is upright, vigorous in growth; young wood, yellowish red, smooth, and short-jointed; buds prominent, with a leaf partaking of combined character of *Seckel* and *Flemish Beauty*. In bearing, its fruit hangs in clusters all along the limbs on short spurs, and its productiveness is second to none. The fruit is usually a

little below medium size; form generally globular obtuse, pyriform, occasionally one-sided; *stem*, three-quarters of an inch long, moderately stout, slightly curved, and planted in a narrow angular cavity; *calyx*, rather large; *segment*, erect, or nearly so; *basin*, broad, very shallow, almost imperceptible in many specimens; *color*, rich pale yellow, mostly overspread and dotted with bright rich red, becoming deep red next the calyx, and showing small grey dots, occasionally a little russet near the stem;

flesh, white, finely granulated, almost but-tery, juicy, sweet, "very good" even to the seeds; *core*, small, eatable; *seeds*, rich brown; *season*, before the Madelaine, or early to middle of July.

As a market as well as amateur sort, this pear promises well, and should at once go into hands of pear-growers, for trial in different sections of the State.

We shall give cut and description of the other variety in our next.

THE READING PEAR.



WE have received fine specimens of this winter pear from W. Kessler, Esq., of Reading, Penn., who furnishes us with the following description:—Has been known for eighty years past in Oley township, Berks Co., Penn., where it is now extensively grown. Tree, vigorous, and a remarkably fine bearer. Fruit large, elongated, obtuse pyriform, angular and ribbed. Skin yellow, thickly dotted with brown and gray dots, and sprinkled with russet. Stalk long, curved, enlarged and ribbed at its insertion, generally in a depression. Calyx open; segments strong, in an exceedingly shallow basin. Flesh whitish, granular, melting, with a brisk, vinous flavor. Season, January to March.

FIG. 45.—Reading Pear.

PLAN FOR IMPROVEMENT OF GROUNDS.

BY EUG. A. BAUMANN, LANDSCAPE GARDENER, RAHWAY, N. J.

I send a design I have laid out in the vicinity of New York, and which is already grown up sufficiently to show the effect of a systematic grouping, the most important object in laying out and beautifying a Country Seat.

This plan, located some two miles off the station of Mamaroneck, Westchester Co., on the New Haven R. R., between several other handsome country seats, lies on Long Island Sound.

When its owner, Wm. G. Read, Esq., gave me orders to remodel it, I found the cottage, stables, vegetable garden and orchards established, but bordering on both sides on a long, straight and quite

narrow approach, leading from the gate to the front of the cottage.

On the said front, wherefrom the ground slopes down on two sides, the natural shape of the land had been left untouched, and without any regard to convenience and beauty, there was a turn in the road around a regular oval, of about 15 or 16 feet wide.

On this turn, the place where the road touches the house, it was at the right elevation; but below the oval, simply designed on the slope, the road was nearly four feet below the upper level, and you had to drive from the door down-hill around the oval, and up-hill again to reach the drive.

It was an every day's arrangement, good

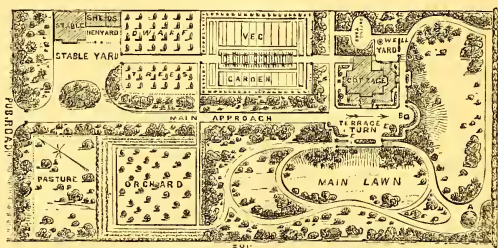


FIG. 46.—Plan of Grounds.

enough on a level ground; but with such a slope the consequence was, that every shower carried all the gravel from the house behind the oval, undermining this as frequently, and carrying all this stuff on top of the lawn below, which, therefore, could never be kept in a decent order. This was one of the greatest troubles to the gardener. It took more to keep his drive in front of the house, as well as his lawn, in order, than the balance of the whole place.

The stable-yard, the pasture lot, orchard, small-fruit trees and vegetable garden reached only a few feet from the drive; the

stable-yard was open altogether; the balance was embellished by a double row of various sorts of trees, hardly 12 feet apart, across the drive, shading this, but leaving a full view of all kinds of crops that may not be always pleasing in a small country seat.

The remnant of the plan, which may be considered now as the pleasure-ground or lawn, was planted with a collection of trees and very few shrubs, scattered in a very irregular way all over the place, showing trees everywhere without harmony or connection. There was no dense shade nor open lawn, with circulation of air, and the

lawn, besides not being drained, in place of having fine, smooth grass, had more the appearance of a swamp in some places, and in others more moss than grass.

I took charge of the place for the very small sum of \$650, for carrying out everything in the line of gardening, and altered the place according to this plan.

1st. The main approach was widened to 14 feet, and correctly graded, and on both sides a border of over 20 feet wide was trenched and prepared for a collection of trees and shrubs mixed, ornamenting the drive, and hiding the vegetable garden, orchard and pasture grounds.

Between the stable-yard and the drive, a bold group of evergreens was established, to hide it from persons driving by, but leaving it accessible from both directions.

2d. In front of the house there was a terrace established, wide enough to allow the turning of carriages, and as far as the banks were high enough, an iron railing, 3 feet high, was put up to define correctly the regular outlines of said terrace.

The corners of the terrace, outside of the space required for wheeling around, were employed for some flower-beds; the railing itself was intended to support a large display of climbers, and in the semi-circular projection at B, in the very centre of the approach, there was a piece of statuary, or some seats or benches intruded, with a full view along the drive on one side, and on the Sound on the other.

As it will be noticed on the design, the planting around this terrace is intended to make it more prominent still. Openings from the circular projection, and opposite the front of the house and the bay window, have been managed; and so as to make them more conspicuous, the intervals have been stocked with evergreen trees.

3d. The trees already on the place, mostly of the leading varieties, or rather the more common varieties met in nurseries, scattered all over the place without idea of grouping, without any idea of harmony of size, foliage or color—were all removed

and planted according to the wants of the place, the most important one being to bring near-relatives together in groups, and to leave open lawns on which the grass could grow.

Most of these trees, being of large growing sorts, had to be employed on the outskirts of the place, and partly in the rear of the borders along the main avenue.

Trees of smaller size, and flowering shrubs had to be employed in front of them, so as to close up the groups with a diversity of foliage that developed itself from the tops of the tall trees in the rear, down to the grass in front of them. Thus were formed dense groups and belts framing the lawn, and arranged in such a way that hardly one variety was employed that could not be seen from one or more places.

The openings left, having their sides treated in the same way, were made thus more natural and more conspicuous.

Scattered over the lawn, single specimens of rarer varieties have been planted at such distances from the paths, that they can be noticed everywhere; if planted among the groups or belts they would be lost.

4th. The main approach has received a new, correct grade from the main entrance up to the terrace. The walks have been altogether graded, stoned, and drains managed under them, carrying off all the standing water.

All the places occupied by trees were well trenched, at over 2 feet depth; the lawn well graded and spaded 10 to 12 inches deep, and now there is fine grass on it.

I saw this place in the latter part of November last, when the foliage had dropped, but notwithstanding, I felt a great satisfaction, and so far so much of a success, to think it worth while to send you the drawing of it, made from memory alone, and therefore, perhaps, not quite correct in all the proportions.

Mr. Wm. G. Read furnished all such articles that were not in the gardening

line; the iron railing cost (iron was cheaper then) about \$400, put up and painted. Some other expenses for the frames, gravel, stones, sods and a summer-house of rustic work, at A, may have cost some \$400 more. All included, I suppose the whole

improvement did not exceed \$1,500 or \$1,600, and I know from Mr. Read himself that he does not regret it, as he was offered a very large profit on the place as soon as it was done.

NOTES ON THE JANUARY NUMBER.

Although unable to write notes on the two last numbers of the HORTICULTURIST for 1865, I assure the writers I read them with much pleasure; and to some I really felt that I wanted to add a word, not that what I might add would of itself be of any great value, but that a hint here, and a question there, often sets "one a-thinking," and occasionally draws out mind where the owner himself know not of its extent.

In compliance with a courteous request of the Editors, I propose, during the coming year, to read, monthly, the HORTICULTURIST, and jot down such thoughts as its valuable articles may suggest. Should my plain manner occasionally seem harsh, I trust no offence will be taken, as the intention will be to encourage and assist rather than to criticise.

The January number comes replete with most valuable matter, and as the Editors have given us notice that only practical matter will be admitted, we must, in our writings, as in our labors, keep the *object* steadily in view, and although we may be criticised by book-makers and those who work by the book, yet, should we "not do all at once," if, at the end of the year, we have studied out some new system, or proven the fallacy or truth of some old commendation, we shall feel that our time has not been entirely lost.

ON NOT DOING ALL AT ONCE.—"Graduated progress is essential to all rational enjoyment," says the writer. Let me add that progress in Horticultural or Agricultural matters has never been witnessed in the labors of those who go by the book.

It is the true lover of rural life—the enthusiast, if you will, in Horticulture and kindred pursuits, to whom we are indebted for the progress that now yearly, almost daily, marks the rural life of this country and has already placed us, in many things, far in advance of older countries, where the working talent is mainly confined to system and books. During nearly thirty years of observation, I find that only those imbued with an enthusiastic love of fruit and flower, tree and shrub, &c.—such men as Wilder, Kirtland, Dana, &c.,—accomplish or attempt much that lays out of a direct line of truisms laid down in the books.

Let no man fear being too enthusiastic in rural pursuits; it may not always add to his bank account, but he will lay up a store of enjoyment not to be purchased with money.

To the remark, that "most planters are afraid of the axe," I must give a hearty assent; for in a practice of years, cutting away has been one of the most difficult things that I have had to contend with in the advisement for the improvement of grounds.

HOW TO REMODEL AN OLD FARM HOUSE.—A good representation of what is often being done; and could our farming people be woken up to a tithe of taste, such re-modelings would increase until, instead of tasteless, though comfortable, houses, our farm residences would become pleasing structures ever to be remembered by the outgoing children in connection with their fire-side associations. The farming community, as a whole, are rich, and now is the time to

urge upon them to use the taste of some other than their village carpenter in the construction of their buildings.

MY NEIGHBORS AND MYSELF.—A pleasant record of a New Jersey neighborhood that might be fitted for many other locations. I hope no grape-grower will take his record of the manner of growing grapes as a method to be adopted; it smacks too much of past ages, and returns to mildews, rank, spongy and tender wood, &c.

GRAPES IN 1865.—Coming, as this article does, from one who claims knowledge upon the subject of grapes, I am surprised at it. All Horticulturists, I believe, acknowledge that years are requisite to prove the value of new fruits, and especially of the grape; but here, in a list of sorts advised for "*profit*," are varieties that two years since were hardly known, and as yet have been fruited in only very few places. The assertion that grapes, like other fruits, will grow in any good soil, is all right, but to assert that an equal *quality* of grape can be grown in any soil, is simply to belie the teachings of all the past and present. I like to see a man strike out bold, and must, therefore, compliment the writer on that part, and suggest that he be ready, for I ween he may have to hear of others writing on grapes and giving some different views.

WHAT NOT TO DO.—Here is the kernel in a nut-shell—a short article—and besides telling what not to do, the writer gives two plain, practical items on drainage and making cuttings that, to one who has been accustomed to go by the book, are worth the year's cost of this journal. As Mr. Henderson says, it is worth as much to be able to steer clear of the rocks other practitioners have blundered on, as to have directions how to proceed. The last are all written, but the blunders are not often told by those who err.

LONGEVITY OF TREES.—As a rule, few know anything of the natural age of trees, and especially of the exceptions where specimens have weathered the storms of hun-

dreds of years. To all such this article will be one of great interest.

PLAN FOR LAYING OUT A SQUARE ACRE.—A very good plan, but I fear not as often practical as one would be where the same amount of land is embraced in one-half the width and double the depth. Suppose the author gives one in that proportion. To this plan I suggest, however, the change from gravel around the house to smooth, green turf. The turf reflects heat less in summer, is quite as cleanly for children to play on, and gives a better relief to the elevation of the house. One more suggestion—some place for a cow-paddock; for if "one acre" is "enough," a cow must be provided for. It is a great item in the expense of a poor man's family. The question of quantity of land, as to how much is enough, I reckon depends very much on the owner's views of expenditure, as well as capacity to take charge of it. I know one man who, from a lot twenty-three feet wide, and one hundred and twenty deep, whereon is placed his dwelling, realized, the past year, three hundred and twenty dollars, from sales, and with this amount and the use of his surplus crops, considers it enough for his wants.

GARDENS AND PARKS IN GERMANY.—It always does me good to read of the German manner of universal enjoyment, and while reading this article, I imagined myself sitting beside the various groups on the turf, as I have often done in this country. As the writer says, in this country all public gardens are of some private enterprise, or possibly of Corporation ownership, where so many officials in "brief authority" hold sway, that, in a measure, part of the enjoyment is lost. St. Louis, Mo., probably, has more places of amusement and recreation, after the family system of the Germans, than any other city in the United States, and there I have often passed a pleasant hour in what too strict disciplinarians call "beer gardens." Americans, as a nation, are money-seekers—ever working, never resting, but like other na-

tions, winding up their mortal coils with a similar result—i.e., inanimate matter.

A TRIP TO VINELAND.—Ah! here is what we want. Every journal has been issuing call, by way of advertisement, for settlers, until too many of us have come to look upon the item as one in which the advertiser kept the best end of the bargain. Now we have a reliable account, and from one having, as may be presumed, no "axe to grind." The location of New Jersey, between two of the largest cities in the States, possesses undoubtedly better market facilities than any other section of our country. The highest prices are at once at command of the grower of fruit or produce, no deduction has to be made, as in many sections west, on account of transportation, &c.; but, while conceding all favorable to New Jersey, it is not quite fair to decry other sections. Most of the new towns of the West have equal advantages of "good society;" they also possess "places of worship," and their children, judging from the records of the numbers in each State that do and do not read and write, have at least equal "advantages of education at small expense." It is not every man that is fitted for a gardening life, or that would be satisfied with ten or twenty acres, and while New Jersey may offer inducements to the truck-grower, or grower of the small fruits, as strawberries, etc., he who would *farm* it in a strict agricultural sense will find his way west, and gain thereby.

To the man of small means, with a love of flower, fruit or vegetable growing, New

Jersey offers extra inducements, for, fill it as rapidly as you may, and increase the quantities of fruits and vegetables ever so fast, New York and Philadelphia will still keep ahead in demand. Looking back upon peach-growing as an instance—when the Reybolds planted their orchards on the Delaware—we (then of New York city) congratulated ourselves that only a few years would elapse when we could buy peaches at a low price. But how has it been? At no time since 1840 have peaches sold in New York as cheap as they were previous to that time, and peach-growing is now more profitable than ever. The same may be said of all fruits, from the strawberry up. When the writer first commenced strawberry growing, he sold at an average of five cents per quart, and counted that profitable. Now, our poorest markets command seven to nine cents when the crops are contracted, and many growers receive from twenty to thirty cents per quart on an average. Fruit-growing to the Horticulturist, like stock and grain-growing to the Agriculturist, may be advised *ad infinitum*, and so long as man lives, the demand, with the price, will rather increase than diminish.

NEW HYBRID PINK.—From the description, this must be a valuable acquisition. The Rose, Pink, and Verbena have always been pets of the writer, and no one thing ever gave more satisfaction than a bed of Picotee pinks of some sixty varieties, when in bloom.

REUBEN.

DIAGONAL TRAINING IN VINEYARD CULTURE.—I.

BY D. M. BALCH, SALEM, MASS.

AT the risk of being considered tedious, we mean to venture a few remarks on the trite but important subject of vine-training, and to propose a method, which, as far as we know, has never been practiced, but which seems to fulfil certain requirements, and may prove valuable.

It is our belief that there is no one divi-

sion of viticulture of so much consequence as the proper training of the vine; for on this depends, in a great measure, the health and duration of the vineyard, the quantity and quality of its products, and the recompense it shall bestow upon the cultivator for his toil.

The many systems that have been, or are

now in vogue, are valuable by as much as they coincide with, or depart from, certain laws of vegetable growth, which we can not infringe with impunity; for the fact that the vine, having a facile nature, can accommodate itself to circumstances, is no argument that it will not be restive under ill treatment, or, on the other hand, grateful for intelligent care. These systems allow the vineyardist the utmost latitude for selection, and free scope for the exercise of his judgment; for in a single day's travel among the vines one can see the application of numerous methods, involving all grades intermediate between a dense mass of foliage excluding air and light, and on the other hand, a mere network of branches and clusters, half shaded by a few scrofulous-looking leaves. One enthusiast, taking Nature as his guide, would permit his vines to wander, as in their native woods, among the boughs of lofty trees, untouched by pruning-knife, and unrestrained in their luxuriance; while another pictures in his mind the theoretical vine as a short staff, more or less straight, and furnished at regular intervals with rich heavy clusters.—But the leaves? Well, he admits that a few are necessary; and so arbitrarily limits each vine to a certain number, one or two beyond the fruit, and these he is determined it shall not exceed, if he can prevent it. The former is rational at least, for Nature is a true mistress, and will not lead her votaries astray; but he defeats certain great aims and objects of vine-training to have the crop within easy reach, to keep it there, and to economise space. But the latter is irrational. Working out his theory with thumb-nail and pruning knife, he transgresses natural laws, is continually sapping the vigor of his vines, and will be deservedly punished with unripe fruit, and wage unceasing warfare on that species of vegetable marasmus, mildew: *vineta sua cedit*.

Against close pruning and defoliating the vine, the following conclusions of Schleiden are a very strong argument; plants in a state of cultivation are predisposed to dis-

ease, that is, they are more susceptible of morbid influences than in their normal condition, since we seek, by a peculiar mode of treatment, to develop certain structures, or to increase certain constituents inordinately, and thus overthrow the natural equilibrium: "The general morbid condition produced by cultivation is heightened into specific predisposition to disease when the conditions of cultivation are opposed too strongly, or too suddenly, to those of Nature."—Now, Nature has not provided each cluster of grapes, like the apple, pear, cherry, and indeed most fruits, with a small bunch of leaves, but has placed it near the base of a free-growing branch, which keeps ever extending as its fruit approaches maturity.—What, then, we ask, can be more unnatural than the restricting this branch to two or three leaves beyond the fruit it is striving to perfect, and persistently checking each attempt that the vine makes to repair the injury? We thus give the plant a shock that it feels, no doubt, in the uttermost rootlets, and deprive it of the very organs it most needs. What wonder, then, if mildew, be it a cause or a consequence of disease, is so prevalent among the vines, and half-ripened fruit so abundant in the market?

It is well known that sap tends to the extremities, and while flowing freely through a branch, causes a vigorous growth, most of the buds producing twigs; but when we check its flow by bending down, twisting, or otherwise manipulating the branch, it thickens, and induces the incipient wood-buds to blossom. In most systems of vine-training, the fruiting cane is fastened either vertically or horizontally; in the former, we have to fear that the uppermost laterals will be over-stimulated at the expense of those near the base; and in the latter, that the growth of the laterals will be too vigorous on account of their vertical position. Training at an angle of 45° has been found very favorable for the production of both foliage and fruit (see the writings of Bréhaut and others), and it is our intention in

this paper to apply this method of training, "diagonal," or "*en cordon oblique*," to the vine, modifying it somewhat to meet certain conditions.

A practical system of culture for the vineyard should keep all parts of the vine within easy reach, occupy all the ground and trellis-space advantageously, provide for the annual renewal of certain portions of the vine, not infringe too rashly upon its natural habit, and, as far as possible, ensure ripe fruit and healthy foliage, without extraordinary skill or tedious supervision.

It is not our purpose to write an essay on the cultivation of the vine, so, passing over without comment the selecting and locating a vineyard, and the preparation of its soil, about which so much has been said and written that the subject seems nearly exhausted, and yet, strange to say, few agree, we turn at once to our theme—the vine itself.

The condition of the vine at planting is of the greatest importance. If its constitution has been debilitated, whether by springing from an unhealthy parent or from neglect in infancy, extra care and attention will not succeed in rearing from it a hardy and healthy plant, and our hopes for its future are vain. The large planter who extends his vineyard year by year, will probably raise his own stock, and can watch over it from the bud; but the beginner will have to content himself with purchased vines. These, if obtained from reliable parties, and of the first quality, will usually do well; but it is a good plan for him to establish a nursery, in which he can give his purchased vines a year's growth, to recover from the effects of transplantation and transportation, and exhibit their vigor.—This nursery may be, like the vineyard, a bed of sandy loam, deeply worked, and only moderately fertile, since it is not our purpose to force the vines, but give them a healthy start, and, by a little care and attention, accustom them to their new locality. In the Fall, all weaklings ought to be destroyed, and the strong plants trans-

ferred to the vineyard. A vine with three or four feet of short-jointed wood, exceeding one-fourth inch in diameter, may be considered suitable for permanent planting; and if this be carefully raised, and as carefully reset, it scarcely feels the shock of removal; our vine is then cut down to six or eight eyes, and a slight mound of earth heaped over stalk and roots for winter protection.

With returning Spring, the buds will start, and most of them may be suffered to grow at random, for the growth below ground will match that above, and plenty of roots are needed for next year's work.—The surface of the ground should be well worked during the growing season, and lightly top-dressed in the autumn; the vines cut down to three or four eyes, and covered with a mound of earth. These directions serve only for the establishment of strong healthy vines, and are applicable to all systems of training, which commence in the second or third spring, as the case may be.

We will now describe the system of "Diagonal Cordons" as concisely as possible:

We have planted our vines forty inches apart (some strong growers may require four feet), in rows eight feet apart, treated them as above described, and have them now pruned to three or four eyes, and covered with earth, waiting for spring. At the proper time, we uncover the vines, and from buds about six inches from the ground allow two shoots to grow, the weaker of which is to be stopped at about the sixth leaf, and not suffered to extend much further; but the stronger trained upward to a temporary stake, and permitted to grow unchecked till autumn, merely stopping once or twice over-vigorous laterals, as it is our purpose to grow a long stout cane. In the Fall, this cane, which ought to carry ten or twelve feet of ripe, short-jointed wood, half an inch in diameter, is cut into eight feet, and the short cane to two buds. We may cover or not, as one pleases, this

winter; the vines are now well-established, and if the soil has not been so rich as to force a rank succulent growth, but the wood is healthy and well ripened, they ought to be in a condition to stand the vicissitudes of climate in most localities where a grape can be raised largely to advantage.

Early next spring, the trellises may be built. Posts are set $13\frac{1}{2}$ feet, or 16 feet,

apart, so as to enclose four vines between each pair of posts. To these, horizontal pieces are spiked, one at seven, the other at one foot from the ground. The slats are about one inch square, and are nailed to the horizontals at an angle of 45° , and twenty inches, or two feet apart from centre to centre.

GARDENS AND PARKS OF GERMANY. — *Continued.*

Upon these streets, which are broad, well paved, and lined with trees, the houses are mostly set some distance back, with lawns in front, and often upon one or both sides of them. The fences are generally of iron, while back of these run beautiful arbovitæ, fir, or box hedges. The walks are generally bordered with beautiful flower-beds and low hedges of box. They are either gravelled, or covered with a beautiful fine quartz sand, of a yellowish hue. The turf is kept closely shaven, and is adorned here and there with some fine evergreen, some bronze group or crystal fountain.— You see a great deal of ivy trained over arbors or the walls of the buildings, while sometimes you see it growing intertwined with hedges. Verandahs and balconies are very common, and these are often covered with luxuriant vines. Here and there you see large bay windows, filled with a profusion of brilliant plants, many growing down from hanging baskets to meet their companions on the stand below.

The wealthy Berliners pay much attention to their hot-houses and conservatories, many of which are filled with the rarest exotics. It is a favorite practice with them to bring their conservatories out into their grounds in summer, and, placing hundreds of pots together, to build up pyramids of floral splendor and artistic taste on their front lawns, or often on the spacious steps which lead up to their mansions. The effect

thus produced is one of wonderful beauty, as you pass by one after another these floral displays, each seeming to surpass the other in magnificence. The elegant mansions, the green lawns, the clear fountains, the trim hedges, the marble and bronze groups, all uniting to form a fitting accompaniment to these rainbow-hued groups of Nature's most cunning handiwork.

In the suburbs of Berlin is an immense locomotive manufactory, employing several thousand workmen. The founder of the establishment, Mr. Borsig, was an amateur botanist of great reputation, and expended large sums of money in his botanical pursuits. He has passed away, but his son still keeps up the gardens. It is not so much the grounds, as the hot-houses, the green-houses, the pinery, and the palm-house, which renders this place almost without an equal.

When I first entered the principal greenhouse, the effect was wonderful, was amazing. I stood and looked in silence upon the scene before me. You see before you a forest of Camellias and Azalcas in the fullest bloom, artistically arranged in a semicircle, rising up many feet, to meet a gallery along whose walls beautiful Camellias, trained like vines, formed a living tapestry. The ground was carpeted with a most delicate moss, studded with fair primroses. In the centre an exquisite fountain of the purest white marble, crowned with a

lovely statue, gave a completeness to the whole. The air was fragrant and cooling; the scene one of the quietest beauty, nought breaking the silence, save the rippling of the fountain—which alone seemed pure enough to commune with the silent wonders of God's creation round about. Passing to the next apartment, through a large archway verdant with climbing vines, a profusion of splendid Magnolias, rododendrons, and exquisite plants unknown to me, reared their proud flower-crowned crests above and around us, seeming to flourish in all their native vigor and beauty. As a centerpiece, a singularly graceful New Zealand Cypress, rose high above its gayer companions, and then bending in graceful curves, swept the very ground with its drooping tresses. All around us upon stands, were the rarest green-house plants, and the most perfect specimens of the familiar hyacinth, and tulip, lily and salvia. Further on was a third apartment, where a fine collection of delicate ferns, some of great size, rose from a bed of greenest moss. Now leaving the green-house, you pass through a corridor containing an Eden of beautiful flowers, and enter the palm-house. This is in keeping with the rest of the establishment, and is hardly to be surpassed.

It is not so extensive as some I have seen, but it is by far the best arranged. It is laid out in tasteful walks and contains several fountains. No where have I seen the strange and gigantic creepers of the tropics, so tastefully trained. One of the finest existing specimens of a singular creeper called the philodendron, was here trained up an artificial rock, for more than twenty feet. Its stem was four or five inches in diameter, and its digitated leaves of a dark glossy green, more than eight inches in breadth. All around rose luxuriant fan-shaped palms, giant cactaceae, and immense-leaved bananas. Everything looked strange, everything looked tropical. The strange vines, and parasitical plants, the gorgeous-leaved spæcrogynes, the tow-

ering bamboo and monster fern, all seemed whispering to us of their far off sunny climes. Not the least interesting to me was the house of the Orchidaceae.

This was a large hot-house, devoted to rare exotics, many of them belonging to the same class as the common orchid.

The building was about 250 feet in length, and constructed of glass and iron. The collection cost originally \$30,000, and was once one of the rarest and most extensive in Europe. The young botanist who was then in charge of it was a friend of mine, and it was only through him that I gained admittance to it, as it was not open to the public. Under his superintendence the plants which had been very much neglected under his predecessor, were undergoing a thorough course of treatment.

All of these exotics require the tenderest care, and the greatest watchfulness, in order to keep them vigorous. If neglected they soon sicken, become blighted, and cease to blossom. The atmosphere requires to be kept very warm and moist, the temperature averaging 80 degs. The greatest enemies of these children of the tropics are insects, and from these they have to be zealously guarded. A large number of these plants seem to grow mostly from air and moisture, and are potted in soft moss. Others dwelt in hanging baskets filled with moss, and struck out vigorous air roots through their openwork receptacles, which like the locks of Medusa, seemed living and moving though objects of beauty and not of horror, for from them burst forth strange and beautiful blossoms, some of which shaped like butterflies, as bright and frail, swayed to and fro with the least breath of air. Here were, perhaps, some twenty varieties of the Calceolaria or Moccasin plant, whose singular yellow or pink Moccasin-shaped blossoms, as it grows with us, is known to you all.

Here were assembled many curious and beautiful varieties unknown to northern climes. Most of them were almost as remarkable for the beauty of their leaves as

for that of their blossoms. One from the Philippine Islands, had a very pretty spotted leaf, resembling on a large scale, that of our wild Adderstongue. The blossom of one was red and white, beautifully variegated; that of another, from Borneo, of a strange glossy green; while that of a third was of so dark a purple as to seem almost black. Some of the other orchidaceae were most magnificent, such as the *Vanda Suavis* of Java, with its superb spikes of white blossoms, studded with purple, or the *Brassavola* of Honduras, with its fringed flower of purest white. And here were also many strange *Nepenthes*, relatives of our Pare's Hillpitcher-plants, gathered together by adventurous botanists from Brazil, the East Indies, and the islands of the Southern Sea. With us the pitchers form a part of the leaf, but with most of the foreigners the pitchers were independent, connected only by a slight stem three or four inches in length, to an oval leaf. In one case the pitchers, all about the size of thimbles, grew upon the stem of the plant itself. Many of these plants

grew like vines, and were trained for many feet over trellises. The subtle aroma of these fair flowers, combined with the moisture-laden steaming atmosphere, produced an oppressive strange sensation, dreamlike, trance-conducive. And what must be the effect of such a vegetation as this in its native clime, among the "summer's isles of Eden, in dark purple spheres of sea." Mr. Borsig's place was small, but a gem, and a head gardener and some twenty men were engaged in caring for it. The grounds were tastefully laid out, and contained many of the rarest evergreens and shrubs, some of which had to be kept during the winter, in an immense greenhouse fitted up for the purpose. Naught could be more pleasant to one tired of the noise and dust of the city, than to make a visit here. To feast one's eyes upon the wondrous flowers and plants; and, strolling through the grounds, to recline under the fine old trees, and to listen to the sweet strains of the nightingale who sang nowhere sweeter than here.

"GREELY PRIZES."

THE Committee appointed to award the Greely Prizes on apples and pears, met for that purpose at the residence of William S. Carpenter, Esq., New York, on Dec. 12th, at 3 o'clock, P.M.

All the members were present. After the Chairman, Dr. Warder, called the meeting to order, the Secretary, P. T. Quinn, read the minutes of the previous meeting, which were accepted.

The Committee regret to state that, although the time for the action of the Committee has been delayed for more than a year, in the hope that a more liberal response would be made by fruit-growers in forwarding choice varieties for competition, the following is a list of the varieties presented for examination:

APPLES.—*Hubbardston's Non Such*, *Falla-*

water, *Swaar*, *Baldwin*, *Tompkins Co. King*, *Rhode Island Greening*, *Northern Spy*, *Winter Pippin*, and three varieties of *Seedlings*.

PEARS.—*Bartlett*, *Lawrence*, *Duchesse d'Angouleme*, *Dana's Hovey*, *Sheldon*, *Beurre d'Angou*, and *Louise Bonne de Jersey*.

For the information of those interested in the awarding of these premiums, the Committee desire to incorporate in their report the portion of Mr. Greely's original offer, relating to the apple and pear.

After speaking of the purpose he had in view, Mr. G. says:—"I offer \$100 for the best bushel of apples, which combine general excellence with the quality of keeping in good condition until the 1st of February, and is adapted to the climate and soil of the Northern and middle States.

It is not required that the apple submit-

ted be new, but it is hoped that one may be found which combines the better characteristics of such popular favorites as the Northern Spy, Baldwin, R. I. Greening, Newtown Pippin, or a majority of them. Let us see if there is not a better apple than the established favorites; if not, let us acknowledge, and act on the truth.

I further offer a premium of \$100 for the best bushel of Pears, of a specific variety, size, flavor, season, &c. It must be a pear adapted to general cultivation. It need not be a new sort, provided it be unquestionably superior; but one object of the premium is to develop unacknowledged excellence, if such shall be found to exist.

One object of the premiums is to afford a landmark for fruit-growers, in gardens and small farms, who are now bewildered by the multiplicity of sorts challenging their attention, each setting up claims to its unapproachable excellence.

I leave the determination of all questions, which may arise as to the propriety of making a prompt award, or waiting further developments, entirely to the appropriate department of the Institute.

Signed, HORACE GREELEY."

The Chairman, Dr. WARDER, made some interesting remarks, setting forth the embarrassing circumstances under which the Committee were called to the discharge of the duty devolving upon them, growing out of the fact that many of our best fruits have their locality in which alone their characteristic excellencies are developed. And hence the apple or pear, regarded the best in one locality, may prove an indifferent fruit in another. But adaptation to the entire range of the Northern and Middle States, with healthfulness of habit in both tree and foliage, as well as size, flavor, and season of fruit, is demanded by the requirements.

The first ballot gave Hubbardston Non-Such 3, Baldwin 2, Tompkins Co. King 1; the chairman not voting. After a full and free discussion of the comparative merits of these and other varieties, the Hubbards-

ton was ruled out, as not meeting the requirements of Mr. Greeley, in keeping in good condition until the 1st of February.

On the third ballot, the vote was, for the Baldwin four; for the Rhode Island Greening three. Whereupon the Chairman declared the Baldwin to be the choice of the Committee. Messrs. Downing, Ward, Sylvester, and Ferris, for Baldwin; and Messrs. Warder, Carpenter and Quinn, for R. I. Greening.

In the selection of a pear, from the list of candidates above named, the ballot was made, as in the case of the apple, without consultation. The first ballot gave the Bartlett four and Sheldon three. The Chairman declared the Bartlett to be the pear. Messrs. Downing, Ward, Sylvester and Ferris, for Bartlett; Messrs. Warder, Carpenter, and Quinn, for the Sheldon.

It was then determined that the Committee should select, by ballot, six varieties of apples and six varieties of pears for general cultivation, comprising two Summer, two Fall and two Winter varieties. Mr. Hovey, of Boston, who was present, was invited to take part in the vote.

It was a matter of surprise when the result of the first ballot was read by the Secretary. Without consultation for the two Summer fruits, the vote was as follows:

APPLES.

Summer—Primate, 6; Red Astrachan, 5.

Fall—Porter, 6; Gravenstein, 6.

Winter—Hubbardston Non-Such, 6; Northern Spy, 5.

PEARS.

Summer—Manning's Elizabeth, 5; Ros-teizer, 5.

Fall—Sheldon, 8; Seckel, 6.

Winter—Lawrence, 7; Dana's Hovey, 5.

The following resolution was then read and unanimously adopted:

"Whereas, in consequence of the reading of a communication from P. B. Mead, published in the *Tribune*, a question has arisen in regard to the action of this Committee as to the postponement of the award of the grape premium,—therefore,

Resolved—That we do reaffirm the action had at the meeting in September last, when it was agreed, in concurrence with the expressed wishes of Mr. Greely, and in what we believe to have been the unanimous judgment of this Committee, that we should defer action until a future period."

It was gratifying to the Committee to examine such choice lots of Winter pears as were voluntarily sent to this meeting. Elwanger & Barry, of Rochester, New York, exhibited 30 varieties, which were highly creditable to them. Their yearly contributions of fruit add much interest to the annual exhibition of the Institute.

C. M. Hovey, of Boston, exhibited 27 varieties; many of them, new sorts, and all well grown.

Mr. H. is one of the early friends of horticulture in this country, and his collections of fruit at the Institute Fairs have always attracted attention.

Wm. L. Ferris, of Throgg's Neck, exhibited seven varieties of Winter pears. Although less in number, they were not inferior in quality, but on the contrary, most creditable to the grower.

Isaac Buchanan presented one variety, and George Bancroft, the historian, exhibited two varieties. Mr. B. is a zealous friend of horticulture, and will soon have an extensive pear orchard at his place at Newport.

It was moved and adopted, that the Committee adjourn, to meet at the Fall exhibition of the Institute, to be held

September, 1866. The time and place Mr. Carpenter would make known to the members.

Before closing this report it is our pleasant duty to render, on behalf of the Committee, a hearty acknowledgment to Mr. Carpenter, at whose residence the meetings were held. Though grateful resolutions were duly passed at the last meeting, the friendly and generous hospitality of our host is firmly impressed upon the minds of those who, in fulfilling the trust confided in them, felt their task lightened and supported by Mr. Carpenter's co-operation and gentlemanly liberality.

Not only horticulturists, but that vast horticultural society, the public, are deeply indebted to Mr. Greely for the interest awakened by this entire movement. That its results will prove beneficial none can doubt; but Mr. Greely's offer assumes even more importance when considered in the light of an initiatory idea.

When those burdened and surrounded by manifold public responsibilities can take an active part in special developments of horticulture, it behooves men of influence, possessed of abundant leisure and ample means, to take a hint from the "Greeley Prizes."

JOHN A. WARDER, Chairman.

P. T. QUINN, Secretary.

John A. Warder. Charles Downing.

I. M. Ward.

Wm. S. Carpenter.

Wm. L. Ferris.

P. T. Quinn.

E. W. Sylvester.

APPLES AND PEARS.

THE result of the deliberations of such men as composed the committee appointed under the auspices of the American Institute, to award the Greeley Prizes (as reported in the *HORTICULTURIST* for January, with reference to apples and pears), is one

of more than usual importance. It is plainly within the province of the *HORTICULTURIST* as a magazine, and the horticulturist as an individual, to call particular attention to it, at this time, as one of the guides which may safely be taken with refer-

ence to tree-planting during the ensuing spring.

The reputation of all the apples named is so well established, that the list, so far as it goes, would, doubtless, be accepted by acclamation by any pomological association.

The list of pears is especially noticeable and commendable, for the prominence which is given to those of domestic origin. Those who, like the writer of this, have planted, replanted, and transplanted; grafted, re-grafted, budded, and double-worked a variety of foreign pears—and, generally, with but indifferent success—will be disposed to join in the wish that they had been favored with such advice twenty years ago; and unite in commending it with all its brevity, to those who have neither time nor means to throw away in experimental pear culture.

Wherever a particular apple or pear has a first-class local reputation, any fruit-grower would, with the greatest propriety, substitute it in, or add it to, any list for general cultivation, however highly recommended as a whole. For instance, the Pinneo Pear so-called, (but miscalled the Boston, in certain localities in New England), would be planted as a summer pear in place of the Rostiezer. So, too, the Roxbury Russet—a well-known and highly popular late keeping apple—would still be retained by many, as the dominant fifth in the harmony which embraces the Early Harvest, the Golden Sweet, the Baldwin, and the Rhode Island Greening.

The Primate, by the way, is the apple alluded to, and partially described, in the HORTICULTURIST (vol. 14; p. 471), as the North American Best. It came, originally, from New Jersey, and was first brought prominently to the notice of the horticultural world by means of a communication in Hovey's Magazine, in 1850, accompanied with an editorial description and outline engraving of the fruit. It is exceedingly popular, and widely disseminated in this vicinity.

The Dana's Hovey Pear—which finds it-

self so suddenly elevated by the action of the committee, to its present high rank among the select few—is of comparatively recent introduction, and its credentials are herewith annexed; more especially for the benefit of the younger members of "our parish," for whom, in fact, this brief article is particularly penned.

We quote from the Magazine of Horticulture (vol. 25; No. 5):—"This most remarkable production is undoubtedly the richest pear known. To say that it is as good as the Seckel would be praise enough; but it is more than this. It has not the spicy aroma of that old pear, but it has what is more luscious—a peculiar nectar of its own, unsurpassed, and apparently unapproachable—a refined compound of the aroma of all other pears—a sort of honeyed juice, delicately refreshing and luscious.—The tree is almost as remarkable as its fruit. It is a very vigorous, though not rapid grower, making stocky, short-jointed wood, like the Seckel. In habit, it is erect and pyramidal, like the Buffum. It is extremely hardy; its productiveness appears abundant, and its keeping qualities wonderful; never rotting at the core; and with proper care it may be had in eating up to the first of January. Ripe in November and December."

So rapidly has this variety strode into public favor, that it is now less than six years since its merits were recognised, and brought to notice by the Massachusetts Horticultural Society, by the bestowal of a gratuity and silver medal upon Mr. Dana for its production.

NOTE.—Our friend, J. O. Cose, suggests that it is sufficient proof of the excellence of the Dana's Hovey Pear that it has survived such a fulsomely eulogistic description, even as it stands abbreviated, as above.

Another humorous and poetical (?) friend thinks that "salt saved it," for he says that the description of an article for *sale* is, generally taken "*cum grano salis*."

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

THE DELAWARE GRAPE.—This plate just published is the finest illustration of the Delaware Grape that has yet appeared in this country. We have had it prepared with great care, and confidently recommend it to all. On heavy plate paper, handsomely colored. Price, post paid, Three Dollars; or sent free to any subscriber who sends us two *new* subscriptions and Five Dollars, in addition to his own.

NEW ENGLAND FARMER.—Published weekly, at Boston, Mass., by R. P. Eaton & Co.; Two Dollars and fifty cents per annum. Its contents are carefully prepared. Market reports full and complete, and as authority on all agricultural matters, has few equals. Its circulation is large, and we speak from experience when we say it is one of the best of advertising mediums. Look up their prospectus in our advertising columns, and add this paper to your list. No one loses anything, either in time or money, who pays for and reads all the leading Agricultural and Horticultural journals. The man who steadily goes backwards is the one who does not take a paper; his farm can be picked out as easily as oats from wheat.

MESSRS. EDITORS.—I would be under obligations if you would give me some information relative to the construction of a dry house for a small orchard, say 200 trees; heating the same, &c.

JAMES Y. CLEMSON, Caledonia, Ill.

Can any of our readers furnish us a sketch and description of a building suitable for the above purpose, for illustration.—EDS.

THE LATE PROFESSOR JAMES J. MAPES.—Prof. Mapes, the eminent agriculturist, has passed from earth. Though he had at-

tained the ripe age of sixty years, his death nevertheless strikes the community as premature. There was such a wealth of resource in the man, so much already performed, and so much still to be achieved, that the crown of his busy life seemed to be but the pledge of an ever youthful activity.

Settling, in 1846, upon a stony, barren tract of land near Newark, New Jersey, he, in time, through an improved and judicious system of culture, rendered it, as admitted by all, the most productive and successful farm of its size in the State. Meantime, he started an agricultural paper, which he continued to edit for fourteen years, when his failing health forced him to resign. He invented the rotary digger and subsoil plow, and other improved implements; advanced and promulgated many important theories and discoveries—among the most striking of which may be cited his theory of the Progression of Primaries in nature. He was among the first to advocate the formation of an Agricultural Bureau at Washington, the head of which should be a Cabinet officer, holding equal rank with the Secretaries of the other Departments; and in the course of three years delivered 150 lectures, analyzed the soils of over 200 farms successfully, advising their mode of culture; and probably wrote more on agriculture than any other man living.

ROBERT REID, an eminent florist, died in this city on the 24th of December, 1865. Mr. Reid was a native of Scotland, and came to this country over fifteen years ago; he contented himself by following the business of a florist, and making a very large circle of true friends; but in earlier life he was a well-known character and used to contribute, as a writer, to some of the best hor-

ticultural literary publications in England. He was an honorary member of the London Horticultural Society, and could claim close companionship with such men as Dr. Lindley, Sir W. J. Hooker, Robert Errington, Donald Beaton, J. C. Loudon, and Robert Thompson, all of whom are well known as authors, and have done more to raise horticulture to its present dignified standing than any other men. He was one of those veteran horticulturists that we can ill afford to part with.

WINE FROM THE CLINTON GRAPE.—

We are indebted to Judge Woodward, of Reading, Penn., for a bottle of wine made from this grape by John Fehr, Esq., of that place. This wine bears much evidence of skill in its manufacture, which is more than can be said of the majority of native wines that have come under our notice. Though but one year old, it is already of fine flavor and body, and has a character quite distinct. The Clinton deserves a high rank as a wine-grape for those localities, where it can be thoroughly ripened.

MANURE FOR EVERGREENS.—Years ago, we were taught that animal manures were injurious to evergreens; but for four or five years past, we have practiced, applying old, *well-rotted* barn-yard manure to evergreens of all sorts, and apparently with the best possible results. Our trees and shrubs grow vigorously, and put on a deeper, brighter green; while kalmias and rhododendrons flower more abundantly than in our old practice of leaf mold manuring.

THE ROOT OF THE GRAPE VINE THE SEAT OF MILDEW, ROT, &c.—Dr. Schroeder, of Bloomington, Illinois, an extensive and successful grape-grower, asserts that rot, &c., may be prevented by renewing the vine yearly, by means of layers, and thus cause it to fruit from canes, the roots of which are near the surface.

If we mistake not, Mr. Saunders, of the Agricultural Department Garden at Wash-

ington, inculcates similar views, in recommending the cutting away of the old part, or top roots of the vine, from year to year, and thus causing it to make new surface roots. Similar are the deductions from the old English practice of a mass of stones, &c., underneath all the border wherever the grape is to be grown.

In this matter of depending upon the surface roots, there is undoubtedly much that is correct; but, at the same time, we must not discard the main roots. The one extreme, heretofore practiced by German vignerons, of cutting away all surface roots, and depending only on the lower and deep roots, it is patent, has shown error; and we judge the other extreme of only looking to the surface roots would exhibit equal error. There is a mean to be taken to ensure success.

GRAFTING GRAPES.—The practice of engrafting old standing vines with new sorts, by sawing off the crown just at the surface of the ground, then splitting it and uniting the graft, and afterwards earthing up all around it, is pretty well and generally understood. We have, however, found that splice or whip grafting on to a cane of last year, and then layering the cane, leaving only the last bud of the graft visible above the ground, to be among the good ways of obtaining new sorts, or changing varieties. Grafting cuttings of two buds on pieces of roots, and planting them out early, in the open border, leaving only the open bud level with the ground, and then mulching with some light material, as sawdust, &c., is also a successful way of growing many sorts that do not readily strike from cuttings in the open ground.

SEVERAL VARIETIES OF SHRUBS IN ONE.—Amateurs of flowers are frequently desirous of having all the varieties of lilacs, upright honeysuckles, wiegelias, &c., but have not room to plant them. As a remedy, we tell them that an amateur friend of ours takes, for instance, a bush of the

old-fashioned lilac, and engrafts on its various limbs one or more grafts of the Persian, Josikean, Charles X., &c.; and on one bush of *wiegeia rosea* he has *amabilis*, *middendafiana*, &c., thus giving many varieties and occupying but a small space of ground.

Would not plants so grown by nurserymen meet ready sale? We think so.—What nurseryman will step out of the beaten track, and try the putting of several varieties of allied shrubs on one bush as an item of business.

PEONIAS.—All herbaceous peonias that have been growing in the same place three or more years should be separated and replanted. Early in spring is the best time. Tree peonias may also be grafted on roots of the herbaceous sorts, and grown successfully.

THE use of about four bushels of salt, with one bushel of plaster (gypsum), per acre, and sown early in spring, is found profitable as a manure to dwarf pear plantations; and on grass grounds its evidence of value is so great, that whoever applies it once will hardly fail of doing so in succeeding years.

BEST TIME TO SEPARATE LAYERS FROM THE VINES.—A correspondent writes that a "large portion of his layers of grape vines made the past season, and left on the vine, have already been destroyed by the surface freezing and thawing, thus breaking off the roots, which afterwards are rotted by too much wet."

Layers, unquestionably, should be cut off from the parent plant, taken up, and heeled in, in some dry and sheltered position in the Fall. This, we believe, is the common practice of those who grow layers of grape vines for sale. A little practice of one of our friends during the past year leads to a question as to when is the best time to separate the layer. His experiment was in cutting free the layer in July, or after it had thrown out roots two inches long; and his statement is, that such layers in the

Fall had nearly double the amount of roots of those left to grow connected with the parent vine. We suggest to practitioners the making trial of cutting away layers from the parent vine this coming season, at different times—say July, August, and September—and oblige by sending us account thereof.

A grape amateur at the West—viz., Wm. Muir, Esq., of Fox-Creek P. O., St. Louis County, Mo.,—writes us that he has now one hundred and three varieties of grapes growing, the most of which, if not all, will be in fruiting the coming season. He also, with Mr. Hussman, of Hermann, writes us that Rogers' No. 1 promises of great value in Missouri. This is what we should expect, as their length of season and great heat must cause it to ripen perfectly, which, as a rule, it fails to do in its native locality.

CREDITABLE.—"The Meramec Horticultural Society," of Missouri, have issued a circular to all fruit-growers of the West and South, in reference to the holding of the next meeting of the American Pomological Society in St. Louis next Fall. They call for action of all fruit men, and for co-operation of all railroad men, city authorities, &c., &c., in presenting not only a show of fruits to eastern men, but a free show of the State, by passing members of the convention over it, that they may see and understand the adaptation of Missouri to the uses of an enlightened people, to its advantages as a fruit region, and its value as a country promising abundant remuneration to the prosecutor of any business. We shall look for a good time when the meeting convenes.

ASHES FOR POULTRY.—When feeding our hens the past winter, we have practiced mixing a small handful of wood ashes with the meal, and found an apparent benefit to the fowls. We also give in the meal, twice a week, about one tea-spoonful of Cayenne pepper. Our stock numbers thirty birds.

GARDEN ROYAL APPLE.—This variety is among apples what the Seckel is among pears—a fruit of surpassing excellence in quality; but it is only medium in size, and not particularly showy for market sales.

Every grower of the apple should possess one tree of it for his own use.

PLANTING PEAS.—In planting peas this spring, our friends should remember that experiments have proven that the pea will vegetate at even one foot deep, but that a mean depth of four to six inches is best—say one furrow depth of plowing, or a spade depth of that implement is used in preparing the ground. If planted too shallow, say two inches, the vines soon dry up; and if too deep, they are liable to mildew sooner than when a medium depth is had.

ROCKWORK.—One of our correspondents writes, that for several years, in the practice of landscape gardening, he has been in the habit of using our common wild brakes or ferns in constructing simple but effective pieces of rockwork, at little cost. Where a northern exposure is had, or on a bank adjacent to water, even if a south exposure, their growth and beauty is retained as perfect as in their native wood locations.

DIELYTRA SPECTABILIS ALBA.—A specimen of this new variety of our well-known hardy herbaceous plant, is now in bloom in our green-house. The flower is in all respects like the pink variety, except in color, which at first is a pure white, afterwards changing to blush. The foliage is of a light green, even from the first commencement of growth. It forces well, and is a desirable acquisition, both for the garden and in-door culture.

HOW TO RAISE EARLY CUCUMBERS.—1. A good method to produce early cucumbers is the following:—Make a trench at the warmest place of the garden; into this put old manure—about three inches—and on this good earth—three inches—on this plant

the seeds, and cover them with sawdust—two to three inches. Cucumbers thus treated are said to come earlier, to endure rain, drouth, and even a little frost, far better than those treated another way.—Against severe night-frosts they should be protected by boards.

2. Take middle-sized flower-pots; fill them two-thirds with good soil; put the seeds on this, and cover with sawdust; sprinkle with warm water, and put the pots near the stove. On the appearance of the plants, place the pots near the window.—Care should be taken to harden the plants before transplanting them into the garden, by admitting air to them both day and night.

3. Take egg shells (the hole to be on the upper end three-fourths of an inch), fill them with good soil, and therein plant the seeds. Plants thus raised, kept either in the house or hot-bed, are easily transplanted.

HOW TO RAISE MANY CUCUMBERS.—1. Never take fresh seed of last season, but always take seeds two to four years old.—Who can not get old seed, should have his fresh seeds dried near a warm stove during several weeks. Some gardeners, in order to obtain this end, carry their seed in their pockets. Old cucumber seed will bear earlier and more fruit. Fresh seed will make weak plants, and is longer in germinating.

2. Pinch off the end of the main shoot. This will strengthen the growth of the vine, the laterals will come out sooner, and you will get more fruit before frost sets in again.

HOW TO GET FINE FLAVORED CUCUMBERS.—1. Get your seed from a reliable seedsman.

2. Soak your seed in milk for about twenty-four hours before sowing.

AGELLULUS.

Several valuable articles, Table matter, book and catalogue notices, &c., in type, will appear in next number.

THE HORTICULTURIST.

VOL. XXI.....APRIL, 1866....NO. CCXXXVIII.

THE ENEMY.

To most of our readers this word may, and doubtlessly does, sound very stale and tiresome. We have all had enough of war and military glory, and the one aspiration now is for peace; never before did the word sound so sweetly. We are told in the Gospel to *love* our enemies; these may be classed under two heads, private and public; the latter are those whom our Declaration of Independence happily recognizes as "enemies in war, in peace, friends." Private enemies are bad enough and we leave them to the Gospel dispensation, but the public enemy is our present theme, and albeit we are at peace with all the world as a nation, (and we would feign hope also as editors), yet there is an enemy against whom we find it our bounden duty, as faithful watchmen of the public weal, to lift up our voice of warning, and to cry aloud. It is a public enemy, an enemy to our nation at large, to every man, woman and child that lives on this blessed continent. An enemy with whom we can make no terms; who will never yield until utterly conquered; who

must conquer us unless we subdue him; a robber and despoiler, the march of whose army will not be told by desolating swarths of separate columns, but proceeding in a line of battle whose flanks rest on either ocean, will leave one general ruin in his rear. This enemy is Insect Life. He is commanded by two able generals, both as cruel and remorseless as they can be. To personify them, we will say that the commander-in-chief is General Curculio, and his lieutenant is the Apple Moth. They have invaded us with full strength, and the cry is still they come. They have no base, but live on the country through which they march. Cruel and unsparing, moving on conquering and to conquer; holding and occupying the land. Now then as the vigilant and faithful watchman on the walls, we sound the alarm, and cry "to arms" Our thoughts have been led in this direction by the scarcity of fruit in our markets, and its corresponding high price. The apple for instance, dearer in the New York market, even in its season, than the orange; our

own most common and plentiful fruit become dearer than an imported and tropical fruit. And yet we may say of the apple, that it is not a luxury, but become just as much a household necessity as the potato. The other fruits we can perforce look upon as luxuries, but not so the apple, this we *must* have; our little ones require apples for health sake; they cry for them more than they are said to do for Sherman's lozenges, and those cries must be stilled by us at an expense of from three to five cents for every plaint. Apple sarse and apple butter, every-day things of the good old past, are now enumerated among the transitory blessings of this life. How different all this from our younger days! We now live in the State of New Jersey, and we remember that in our school days, our geography was wont to describe this State as "famed for its fine fruit." This fame now seems to be a myth, for the more truthful description of the present day would be, famous for its want of fine fruit. We have watched this change with a melancholy interest, and it does seem to us as if during the past fifteen years, this change has increased with each succeeding year. Probably at no time in the history of the State, has more fruit been planted, or greater attention paid to its culture than at present, and yet, certain it is, that never was there so little fine fruit seen in the State. It may be said as true to a general intent, that not a perfect apple has been raised in the State of New Jersey during the year 1865. If any one possesses a perfect specimen of this fruit raised in the State, we would like him to exhibit the same as a curiosity, and will take our sack in hand and make a pilgrimage to see it, and do him reverence. We take the apple as our illustration the more especially, because the most important, and generally the most plentiful of all the fruits, and yet the one on which the most wholesale devastation has been wrought. Of the smooth skin stone fruits, such as the apricot, the nectarine and the plum, we scarcely deem it worth while to make men-

tion, for no one now undertakes to fruit them unless it be under glass. And what we have to say of the State of New Jersey, is equally applicable to the neighboring States, particularly near the sea coast. The great question then is, where is this going to bring up; where is it all going to end? It needs no prophet's vision to foresee. We can tell you in plain words what will soon be the result, not only in the State of New Jersey but in every State in the Union; and that is, that of no fruit will we ever have an abundance, but with each year an increasing scarcity of all those which formerly we enjoyed in superabundance. The apple will be more scarce than the pear, and by and by, both will be among the things that were. So too with the fruits of a shorter season, the cherry and the peach. The former is already sparse, and the latter must in time yield and come in for its share in the general doom. And all this the result of the remorseless enemy. These are sad thoughts to contemplate. We are not croakers, but speak words of sober truth, however disagreeable they may sound. There is no mistake about it, unless something is done, and done soon, we shall have to bid good-bye to our fruit. As we have said, this enemy will conquer us unless we subdue him. It will be asked, can nothing be done to avert this calamity? We answer unequivocally, yes! Yes if we arouse ourselves in time, and fight the enemy without rest. One steady campaign against him until the victory is assured. We have a natural ally in the birds, once on a time a match for the enemy, but now, from our bad treatment, his wasted ranks are over-matched. What we want is concerted action—pulling together—not like General Grant's baulking team, but all acting together, at one and the same time. We want a general dissemination of practical knowledge in the art of conducting this war—practical knowledge brought home to every grower of even a single apple or a single pear tree. Much has already been done in certain quarters; the science of the

Entomologist has been brought into requisition, and we have, as the result of his investigations, much valuable knowledge, but it is generally of a kind but little adapted to the wants of plain, practical farmers and fruit growers. We want information stripped of all technical terms and scientific phraseology. We want books which shall describe the various insects to fruit and vegetation in such wise that they may be known and recognized the moment they are seen; lessons which will teach us to discriminate between friend and foe, to discern either at a glance, and to know their seasons, their transformations, their *modus operandi* and their whole life. Pictures colored true to nature to assist the learner, for no mere print and description will suffice to identify the insect to the unlearned; he must have



FIG. 47.

an exact picture in form and color, for the insect tribe is so numerous and various that plain black drawings seem to produce only a confusion in the minds of the ordinary student, and in despair he gives the subject up as beyond his scope.

This desideratum has lately been supplied in part by Dr. I. P. Trimble, Entomologist to the State Agricultural Society of New Jersey. The work is entitled "*A Treatise on the Insect Enemies of Fruit and Fruit Trees*," published by William Wood & Co., New York. The part now in print treats

of the Curculio and the Apple Moth, or as it is commonly called, the Apple Worm. The author has done good service to the cause by this work; he seems to have laid aside all pretensions or desire to appear as a book maker, but on the other hand to be animated by an enthusiastic wish to communicate information in a simple, straightforward manner, ignoring all scientific phraseology, and teaching his lessons in plain English, without any particular care as to systematic order, so long as he makes himself and his subject thoroughly understood by the reader. His style is quaint, with an occasional smack of quiet humor quite refreshing. The illustrations of the work are done in a masterly style, and as specimens of art, are, in themselves, worth the price of the book. In them we have the ravages of the insect brought before the eye, just as we see them in the defective fruit we handle. Of these illustrations we have selected one for this article, which we use by permission. It represents a trap made of a rope of hay, the invention of Dr. Trimble, who says: "Two years ago I took from the crotch of a young Bartlett Pear tree, an old boot leg that had been doubled up and forced into that crotch. It had become so hard and dry, and the growing tree had pressed it so closely, that it had to be cut to pieces to get it out. This was in April. That old boot leg contained in its different folds, sixteen of the worms of the Apple Moth, in their larva or caterpillar condition, all snugly tied up in their silken cocoons. When these cocoons were opened the worms would creep off, just as they would have done when taken from apples or pears in the fall or summer before. Since then I have tried everything I could think of that would be likely to suit the fancy of these little caterpillars, having this instinctive impulse to seek out places for concealment. The result has been, that the hay rope band, as shown in this plate, is not only the cheapest and most easy of application, but the best of all the contrivances that I have tried thus far."

The mode of applying the hay rope is seen in the cut, and consists simply in winding the rope moderately tight three or four times around the tree, and securing the end so as to prevent its becoming loose and falling off. The marks below the band show the slight cavities made by the Apple Worms under the rope, as seen after slipping it up and taking out with the point of a knife the cocoons. The tree in the cut represents one in the garden of a friend of the author in the city of Newark, on which he had experimented in this way and caught nearly two hundred worms in the year 1864. The author says, "These bands should be put on the trees as soon as the fruit shows signs of the worms being at work, from the middle to the last of June. They should be examined every two weeks, as long as the warm weather lasts, the earlier broods of worms becoming moths, and producing a second crop. If the orchard is pastured, the bands must, of course, be put out of reach of the animals. Sometimes it may be necessary to place them round the limbs; in that case the scales of bark on the bodies of trees below them should be scraped off." The tree in the plate, our author further says, "showed until some time in June, a promise of a most bountiful crop; but then the young apples began to fall, and persevered in falling till not a dozen were left to come to full maturity." Here we have an evidence of what results from the combined attack of the Curculio and Apple Moth, and we know that there are hundreds of others who can relate a like experience, but who have never investigated the cause. We had the pleasure one fine day in the fall of last year, of witnessing, in company with several other gentlemen, the result of the Doctor's experiments with the hay rope, and can give our unqualified testimony as to his success. It is a very simple, inexpensive and quickly applied method of fighting the enemy, "In examining the traps, all that is necessary is to slip it up the body of the tree a few inches, and all the little cocoons, with the worms inside of them, are so per-

fectly exposed that nothing remains to be done but to crush them with the palm of the hand, either with or without gloves; then push the rope back again to the same place, or lower if necessary, to make it as tight as it will well bear without breaking." Even if these bands should be neglected and time wanting to kill the cocoons, by simply taking off the straw, the birds will come and make a feast of them, and thank the foresight of him who, by so simple a contrivance, gathered all the worms of the tree into one little compass so easily got at. We feel that this subject of insect enemies is a most important one, that the evil can in no wise be exaggerated, nor the importance of a prompt and energetic action be over-estimated. Let every one then, as he hopes to preserve our fruit, begin at once to work; let clubs be formed everywhere, for the purpose of getting information on the subject and securing a concert of action. Let no one be discouraged at working singly, for he can do much to preserve his own fruit, if he does not effect the general result; but above all let there be a combination, so as to secure the end. Two or three vigorous campaigns and the victory is ours. Let any man who neglects his fruit trees and allows his fallen apples to lie upon the ground to add to the hosts of the enemy, be looked upon as a pest himself in his neighborhood. Let our Agricultural and Pomological Societies everywhere take the matter up. Let our Legislatures give every encouragement by passing stringent laws for the protection of friendly birds, and the giving to the masses, instruction in the science of fighting these insects. In the report of the Committee on Agriculture to the Assembly of the State of New Jersey, the subject is given quite a prominence. We quote an interesting passage, viz: "The number of insects known to naturalists comprehend some hundreds of thousands, and quite a large number of them are more or less injurious to the farmers' crops; but the insect enemies of fruit and fruit trees do not exceed twelve or fifteen, and if five

or six of the worst of them were thoroughly understood and conquered, fruit growing would again be a successful business. *And this can be done. The protection of fruit from these insects can be made a fixed science*, so that the man who chooses to go into the business of fruit growing, may be sure of success, provided he permits no other pursuit to

interfere with the proper attention to this, at the right time."

We commend our readers for further information to this elegant work of Dr. Trimble, which we hope to see carried out to its completion, and put into a shape which shall bring it within the means of every one.

DESIGNS IN RURAL ARCHITECTURE. No. 13—A SUBURBAN COTTAGE.

BY GEORGE. E. HARNEY, ARCHITECT, COLDSRING, PUTNAM COUNTY, N. Y.

WE used to indulge in an occasional talk with the members of the worthy brotherhood of horticulturists, concerning their country places—their houses, their gardens, their barns, and their stables, more than three years ago, when we were in Lynn, Mass.;

and, in so doing, gave ourselves a great deal of pleasure, while we endeavored to be of some service to them in building their houses, in laying out their grounds, and in appropriately ornamenting them, offering designs for their inspection, and, now and

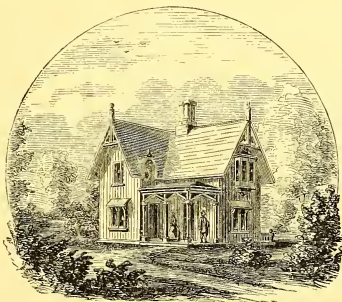


FIG. 48.—*Perspective.*

then, throwing out what we conceived to be a suggestion for some improvement or other.

And now—located here on the banks of the Hudson, nearer the most of our readers than before, in fact, in the very midst of them, and consequently knowing their wants better—we again take up our pen and pencil, promising ourself another indulgence in

the same pleasure of talking to them, hoping to make ourselves acceptable to our old friends, and to make new friends among the newer members of our brotherhood—those to whom as yet we are a stranger.

And we offer them at this time, in commencement, a design for a small cottage, such as one might build on a village lot of sixty or a hundred feet in width.

It is of frame, filled in with brick—soft brick, laid on edge in mortar—and covered with vertical boarding and battens, or with narrow horizontal siding; the roof covered with shingles cut in patterns; the cellar of rubble-stone; the wall 20 inches thick, laid in mortar.

The frame is of spruce or hemlock (the former is the best, but the latter is the most generally used in this part of the country), and the outside finish of white pine—the details few and simple, but bold and strong—everything meaning something, and telling its own story. The roof is quite steep, and the projection of the eaves broad to shield the sides, and the windows are all broad and airy.

The accommodation of the house is as follows:—A verandah, 6 feet wide, shielding the front entrance. The hall, con-

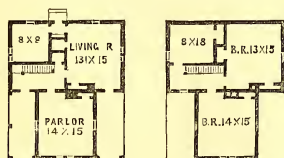


FIG. 49—*First floor.* FIG. 50—*Second floor.*

taining the staircases to the chambers and cellar, and opening into the several rooms on this floor. Parlor, 14 feet by 15, communicating by French casement windows with the verandah on one side, and with an open gallery on the other side, and having, besides, a large hooded mullioned window in the front.—This room has, also, what we consider indispensable in a country house, be it large or small—an old-fashioned open fire-place, for burning wood on the hearth, if wood can be had, or, if not, coal in a grate, and, besides, for purposes of ventilation. We think, for practical reasons, the old poetic sentiment of the family fireside and the blazing log should not be lost sight of, and there should be at least one room in every

house—the room that is the most used by the family as a sitting-room—made attractive and healthy by this means.

The living-room, measuring 13 feet by 15, is provided with two good closets, and opens into a little pantry, which is fitted up with a sink and pump, and other pantry conveniences. This opens out upon a stoop to the yard. There is also on this floor a room 8 feet square, which may be used either as a bedroom or as a store-room; it has no chimney, though if one were added, as easily might be, it could be used as an outer kitchen or scullery.

There is a cellar under the whole house, reached by stairs under the main flight.—It is provided with a rain water cistern, bins for coal, and the other usual cellar conveniences of lock-up—cold cellar, hanging shelves, &c., &c. It has a separate entrance of stone steps from the yard, and is 7 feet high in the clear.

In the second story are chambers corresponding severally with the rooms below, and each supplied with a closet.—There is no attic, but an opening in the ceiling of the hall communicates with the vacant space above the rooms, and into it ventilates the house, this space having ventilators under the peaks of the gables.

The front chamber has some importance given to it by the addition of an oriel window, after the fashion of some old English cottages—a feature which adds greatly to the brightness of the room, as well as giving some extra space. It is fitted up with a seat, and has glass windows on its three sides.

The interior of this cottage should be fitted up in simple manner with pine; the closets all supplied with shelves, and hooks and drawers; and the pantry with sink and other fixtures. The walls may have a hard finished surface, unless it be contemplated to paper them, in which case a cheaper covering can be used.

The inside wood-work may be stained in two shades with umber and oil; and to add to the effect, the finish for the *best* rooms

may be of selected stock, so that the finest and best-grained wood may be there used.

The outside should be painted three coats of some neutral colors of oil paint—say light browns, or drabs, or grays. The heights of the stories are 9 feet each. The posts are 14 feet long between sill and plate.

Cost—This is an important item, but a very difficult one to come at in these days of changing prices. Two years ago, we might safely have named the cost of this house at a thousand dollars, but at present prices of labor and material, it would cost at least eighteen hundred dollars.

MILDEW AND GRAPE CULTURE.

BY WILLIAM SAUNDERS, WASHINGTON, D. C.

AT page 39 of the February number of the "HORTICULTURIST," in an article on grape culture, I find the following sentences:

"Mr. Saunders of the Propagating garden at Washington, for a long time contended that aridity was the cause of mildew, then wavered and confined his remarks about aridity to the exotic grape, gooseberry and certain other exotic plants; now says that humidity is the cause of mildew on our native grapes, and by a covering to keep off moisture from the foilage, we can entirely prevent mildew."

With many others, my attention has, for a long period, been directed to observations on grape mildew; I have also on several occasions, taken the liberty of expressing my opinions based upon these observations. In order to show how far the views of your correspondent are correct, and how far erroneous, I propose tracing some of my recorded opinions on the subject.

Commencing with the "*Philadelphia Florist*" for 1852, at page 38 will be found an article by me on grape culture under glass. For several years previous, I had arrived at the conclusion that the cause of mildew on the foreign grape in this country, was induced by aridity. In this article, I quoted from my note-book of 1851, an instance where its ravages were checked "by closing all bottom or low ventilation, and keeping the atmosphere moist by liberal use of water on the floor."

At page 178, of the same journal for 1853,

in the calender of operations for the fruit department, I again direct attention to this subject, and extend my remarks by alluding to the circumstance that various other plants of similar origin, are similarly attacked, but as I find that the remarks in that paper are in the main repeated in an article published in the "HORTICULTURIST," prefer quoting from it.

It may be well to state here that, being fully convinced from my daily practice, of the pernicious effects of bottom ventilation in producing mildew, I had several grape-ries built in which no means were provided for front ventilation. I also advised others to build in this manner; and having advocated and practiced the erection of glass structures on the fixed roof plan, I drew attention to its superiority for graperies on account of the low angle on which the roof could be laid, thereby providing a more equable temperature, and allowing an equal distribution of atmospheric moisture. The first structure built on this plan, so far as I am aware, I had built in 1850. This mode of constructing glass roofs is now very generally adopted.

In the volume of the "HORTICULTURIST" for 1855, at page 129, there is an article headed Grape Mildew, in which I stated my views on this subject, and from which I make the following extracts:

* * * "My experience in grape culture leads me to the belief that the true source of this disease has not been fully

recognised. It is well known that fungoid attacks are a consequence of disordered organism, and not a cause. The germs of parasitic fungi are constantly present in the atmosphere, ready to develop whenever they find a proper medium. This medium is found in decomposing organic substances, and such are seized upon, although decomposition is so incipient as not to be visible to the naked eye. The question then is, what occasions this disorganization in the grape? The answer will show the cause of mildew."

* * * "Mildew is so often associated with dampness, that, in the absence of practical observation, such a conclusion seems very plausible. I am of opinion that in this case we must refer it to a deficiency rather than an over supply of atmospheric moisture. *Lindley*, in his *Theory of Horticulture*, remarks that "mildew is often produced by a dry air acting upon a delicate surface of vegetable tissue," and we can readily suppose that the excessive and long continued heat of our summers would, by great and constant evaporation, weaken and tend to general debility, more especially in regard to exotics. This supposition is further strengthened by the fact that all our native grapes have thick skins, and are thus enabled to resist evaporation from their surface. Early forced grapes, that are ripe before the dry season, are never troubled with mildew. The gooseberry attains greatest perfection in cool, moist climates, with us it mildews. The leaves of many plants, not natives, as the English hawthorn, lilacs, &c., are frequently white with mildew in the hottest and driest seasons. I have long ago satisfied myself that mildew may be prevented by judicious airing. Admitting currents of dry air to come in contact with the young fruit will certainly produce mildew. I consider front ventilators quite unnecessary in graperies, and indeed they could be dispensed with in green houses also."

* * * "It may be necessary to observe, that I do not by any means suppose

that aridity is the cause of every kind of mildew. On the contrary, that is only one of many known causes, and I submit that it is the most likely in the present case."

During the years 1856-57-58 I prepared a monthly calender of operations for the "HORTICULTURIST," and frequent allusions are made in these articles to grape mildew and its prevention, based upon the supposition that it proceeded from dryness.

For instance, at page 296 in the volume for 1856, under the heading *Graperies*, in the June calender, I advise to "keep the atmosphere moist by frequently sprinkling the house with water; this will tend to prevent mildew. Ventilate exclusively by the top openings, and leave them open to a certain extent both day and night. "Ventilate early in the morning and shut up early in the evening," is common advice, and those who adopt such a course need not be surprised if their fruit is deficient both in color and flavor. *The fruit will ripen earlier when the temperature is kept low and cool in the absence of light.*"

It will be observed that in all these writings I have had reference exclusively to the foreign grape and its culture under glass. No mention whatever is made of the native species or their varieties.

So far as I can discover, the first time that I made any allusion to mildew on the native grape will be found at page 536 of the "HORTICULTURIST" for 1858. In a brief note treating generally on mildew, I remark as follows:

"The peculiar atmospherical conditions tending to the increase of mildew are not particularly well understood. I have frequently repeated my conviction that the mildew seen on the foreign grape under glass, on the gooseberry, lilac, &c., is induced by atmospherical aridity. This mildew develops in the form of a moldiness on the upper surface of the foliage, and frequently extends and envelops young growing shoots, in which case the bark seems to contract and crack into lengthened openings. Here can be traced a close re-

semblance to the cracking of the pear, going far to prove that it has the same origin. In sheltered city yards, where drying winds are arrested in their sweeping progress, and where a quiet and more humid atmosphere prevails, the foreign grape will frequently attain to a fair perfection. So also the White Doyenne pear is annually produced in its greatest perfection on trees similarly located, while in exposed situations, a few miles distant, a fair specimen cannot be procured. No reason that has ever been brought forward on the probable cause of pear cracking is so philosophical, or so much in accordance with recorded facts, as that which connects it with mildew. The mildew seen on the native grape, is apparently a different fungus from the above. Here the *under* side of the leaf is attacked, destroying the vitality of the tissue, which is then tender, and is speedily scorched by sun, and the leaves decay and wither. When this occurs during the ripening of the crops, the sudden loss of foliage prevents it from maturing, and hence many bunches will show one half of the fruit black and the other half green. This apparent scorching is most noticeable during the months of August and September, when heavy night dews are succeeded by hot sun, or after a few dull or rainy days."

In the above extract it will be observed that I have attempted to describe the different appearances of mildew as presented on the foreign and native grapes; this distinction I have ever since kept steadily in view whenever I had occasion to refer to this subject.

The next article I will refer to is one prepared by request of the American Pomological Society and published in their report of 1860.

In that article, (after considerable investigation of mycological works), I ventured to name the distinct forms of mildew, alluding to them as follows: "There are two very distinct forms of mildew seen upon the grape vine. One of these, which I take to be a form of *Erysiphe*, is mainly confined to

the exotic grape, and the other, a form of *Oidium*,* chiefly found upon the native varieties, I am not prepared to state that they do not respectively attack both the exotic and native grapes, for although I have seen the *Oidium* on the foreign sorts when grown under glass, I have not detected the *Erysiphe* on the native grapes. The *Oidium*, so far as my knowledge of it extends, makes its appearance in the grape house only on vines that have been grown in an excessively humid atmosphere, combined with a high night temperature, the shoots being very succulent and immature, if cold or dull hazy weather succeed a period that has been clear and dry, the *Oidium* will usually be found on the leaves. It presents itself in small patches, of a whitish color, on the underside of the leaves, and spreads rapidly. The affected leaves are readily detected after a few clear days, the sun turns these parts brown, and it then assumes that appearance frequently termed sun scald."

In this article I further directed attention to the species of native grapes most liable to mildew, having found that even in their native habitats the *Vitis Labrusca* was often mildewed when the *Vitis Cordifolia* was entirely exempt. The *Clinton* being a cultivated variety of the last named species, I suggested that attention should be given towards originating improved forms of that sort, so as to secure a race of truly healthy grapes.

Referring to the influence of culture I alluded to the fact that "vines allowed to clamber unrestrained over trees and bushes, will retain a vigorous healthy foliage, and ripen fruit, while branches from the same root, trained alongside on an open trellis, would be completely destroyed, in seasons favorable to mildew." We have also observed isolated cases of negligent culture, where vines have been allowed to grow during the whole summer unmolested, and ripen a good crop, while those that have been carefully tended, laterals kept in check, and luxu-

*I have since been led to believe that this is most probably a *Perono pora*.

riant growths carefully pruned, have failed to mature any fruit. Now the reason for this success, where success was not to be expected, is easily explained; simply the shelter of the foliage from the causes predisposing to mildew; in the first case by the foliage of the trees, in the other, by the mass of foliage left on the vine."

I then proceeded to give examples of the efficiency of shelter and protection, citing among others that of a common trellis protected by a board sixteen inches in width, nailed flat down along the tops of the posts.

I will now only further refer to an article at page 495 in the Agricultural report for 1861, headed *Remarks on grape culture with reference to mildew both on the native and foreign varieties.*

In this paper I again somewhat elaborately stated the result of my observations and practice on mildew, and recommended a form of covered trellis for out door grapes, accompanied with a sketch of the arrangement; remarking that "Undoubtedly shelter of some kind from sudden changes and atmospheric currents, is one of the most prominent expedients for preventing or modifying mildew, and every experienced grape grower can recall instances where

even a slight protection proved of great value."

The following remarks also appear in this paper:

"In advancing the opinion that grape mildew is merely the result of atmospheric influences, I do so from a conviction that my observations have been too extensive and too long continued to be mistaken, and too completely free from any preconceived hypothesis, or any ulterior object, to be swayed by prejudice. A further conviction in the correctness of my views, is furnished by the circumstance, that a course of practice, based upon a recognition of this opinion, has proved satisfactory, and has resulted in an immunity from mildew sufficient to establish the truthfulness of the observations which led to its adoption."

To conclude, in the Report of the Department of Agriculture for 1864, at page 608 the following sentence occurs: "Although mildew has been prevalent on many of the varieties, (of native grapes), all have escaped when grown on the covered trellis; a description of which was given in the report of 1861.

Experimental Garden, Feb. 6, 1866.

DIAGONAL TRAINING IN VINEYARD CULTURE—II.

BY D. M. BALCH, SALEM, MASS.

IN our last, we had reached the spring of the first fruiting season, and had just completed our trellises, the vines carrying each one cane, about eight feet long, and a short spur of two buds. Shortly before vegetation commences, the soil should receive a dressing of ashes, and be put into good condition; wood ashes are an excellent manure for the vine, and appear to supply it with about all its needs; but of this again hereafter. When the buds are ready to start, the cane is trained its whole length to the diagonal slat nearest it, and disbudded so that the bases of the shoots may be

about six inches apart, and on alternate sides of the cane, sixteen in all. These shoots will probably show two or three bunches of fruit each, most of which it will be necessary to remove, limiting the crop to about one dozen clusters, or not over five pounds. These bearing shoots will require no tying-in; they may be permitted to interlace and grow unchecked, unless a few show a strong tendency to rampancy, when a little wholesome correction will be advisable; there is, however, little probability that this will be required, unless the vine be over-stimulated; and al-

though this third season (from the fact that the plant is young, vigorous, extending its roots in new soil, and carrying a very moderate crop of fruit) an excessive wood growth is more likely to take place than subsequently, we have, on the other hand, only alternate slats of the trellis occupied, and consequently plenty of room to indulge the vine in this particular. From the short spur a shoot is trained upright, to grow through the season unchecked, and form a fruiting cane for the next year.— From a bud near the base of this spur, or on the trunk of the vine near its centre, a third shoot is allowed to make about six leaves, and then stopped and kept short; this is to form a spur, from which next season a cane is to be grown, to fruit the year following.

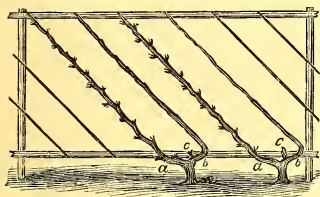


FIG. 51.—*Diagonal Training.*

At the autumn pruning, cut in all the shoots on the fruiting cane (both those which have borne fruit, and those which have not) to two buds; prune the upright cane to eight feet, and train it to the intermediate diagonals that have not yet been occupied, and cut in the short cane to two buds. Our vine now presents the appearance in the diagram, having two bearing canes, A and B, and a short spur, C; the following season it can bear a full crop, thirty-two clusters as a minimum, that is, one to each shoot; those from the spurs of the old cane A, can, no doubt, bear two bunches each without injury to the vine, increasing the crop to forty-eight clusters; this, however, must be left to the judgment of the cultivator.

We have now to consider how to renew one-half the vine annually, so that it can be kept always vigorous and ever young.

This second fruiting season, we train upwards from the spur C a shoot, which is allowed to grow unchecked, and form a cane to supply the place of A, which is to be cut out at the Fall pruning. From a bud conveniently situated near the centre of the vine, we grow also a short cane, to form a spur for the next year. As to stopping and pinching in the bearing shoots this season and subsequently, we are no friend to it; it gives the vine a shock detrimental to its well being; a few that give decided evidence of outstripping their neighbors will require it early in the season; and although the bearing shoots may extend some feet and interlace in all directions, there is little cause to fear that the foliage will become too dense; grapes are ripened by the action of the sun on the leaves, not on themselves; moreover, the upright cane, growing freely, will probably appropriate the superabundant vigor of the vine, and check excessive growth elsewhere. If the soil of the vineyard is too rich, or if, from the habit of the vine, or any other reason, we have to anticipate an exuberant growth of foliage, the fruiting cane may be twisted five or six times round its diagonal, and thus checked; this is an excellent plan, if the trellises run north and south, so that both sides are exposed to the action of the sun; the shoots thus radiate from a common centre in all directions, and produce an open growth very favorable for the admission of air and light. But continual summer pruning is against nature, and ought not to be indulged in.

At the pruning this autumn, we cut out the cane A entirely, train the new cane from the spur C in its place, and cut in the laterals on B; we also cut in the short cane to two buds; thus we have our vine exactly where it was last autumn, except that the relative positions of the spur-bearing and budded canes are reversed. These operations can be followed year after year,

keeping all parts of the vine in the same age and habit of growth, subjecting it to few unhealthy shocks by close pruning, pinching in, dwarfing, or otherwise; and, accidents apart, securing abundance of healthy foliage, a natural consequence of which is ripe fruit. This method has also the advantage that a considerable length of cane is obtained without increasing the length of the trellis, so that all parts of the vine are kept within easy reach. The trellises are, moreover, of cheap construction, and easily repaired. It will be observed that a triangle, containing 18 square feet, is left at each end of the trellis; this may be filled to advantage by an extra branch from the nearest vine, bent into bow shape, and renewed when necessary.

The amount of soil allowed each vine is twenty-seven or thirty-two square feet of surface, according as the distance between the cordons is twenty inches or two feet; the latter distance will no doubt be found most favorable, and this will allow 1,250 vines to the acre, together with necessary roads, lost space, &c. Now, if we can depend upon fifteen pounds of fruit from each vine, a quantity by no means large in suitable conditions, the total product per acre may be easily calculated in fruit or wine.

With regard to the manuring of vineyard, much has been written, and it appears to be generally conceded that nitrogenous manures, and all those exciting a rank growth, are to be avoided. The inorganic substances most abundant in all parts of the vine are potassa, lime, and phosphoric acid; and as these are indispensable to the healthy growth of the plant, the soil must not be allowed to become deficient in them. The quantity of manure required by a vineyard is wholly dependent on the disposal made of its products; if the fruit is manufactured into wine, and leaves, cuttings, and the residuum from the press are returned to the soil of the vineyard, very little manure will be required for a long period; for 500 gallons of must, the average yield per acre, contains less than eight pounds of potassa, and this is everything

of importance that is removed from the soil. If the fruit is sold as such, large amounts of valuable mineral salts are removed in the skins and seeds, and must be restored by annual manuring. The best material for this purpose appears to be hardwood ashes, or the ashes of forest leaves, wheat straw, and especially that of bean straw and corn stalks; all of which substances abound in potassa, and supply phosphoric acid, lime, magnesia, &c., in large quantities. The leaves cast annually by the vines, and worked into the soil, will probably furnish sufficient humus. Where summer pruning is practised, the trimmings are immediately hoed in, and decay rapidly; but in the method under discussion, no wood is removed until fully ripe; and as a part of this is two years old, and would decay very slowly if turned under the soil, it is better to burn the trimmings, and return their ashes to the vineyard.

In conclusion, we would state that this system exists but in theory. A method of vine-dressing was desired which should allow the plant to follow its natural habits as closely as possible, with the attainment of certain conditions important to the cultivator; and a result of the examination of many systems, both old and new, is the paper now presented. We publish it with the hope that some lover of horticulture may be induced to assist us in reducing theory to practice; if any such there be, we wish them abundant success. We believe that, by patient experiment, some method of culture might be devised, by which the health of the vines will be ensured, without that lavish expenditure of nauseous drugs now so often found necessary. We do not by any means insist on training the fruiting canes at an angle of 45°, or at a distance of two feet; these are simply the figures we have adopted in our own experiments; but we are of opinion that that method will be found most successful, in which summer pinching and pruning is reduced to the minimum, or wholly neglected.

ABBOT PEAR.

THIS is one of the handsome appearing pears that, although of native origin and qualities of merit, has been comparatively overlooked by introduction of foreign sorts.

Fruit medium, oblong, obovate, bright clear yellow, with a rich, clear, red cheek in some; dotted; the dots in sun being dark vermillion red; stem long, slender;



FIG. 52.—*Abbot Pear.*

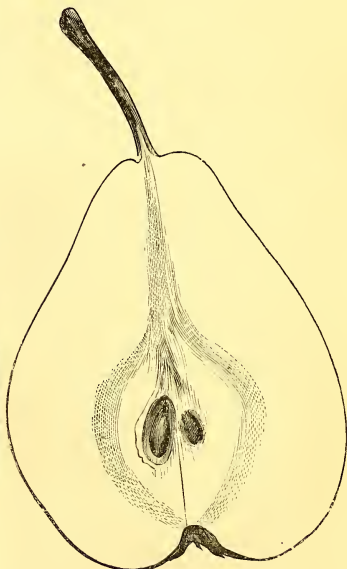


FIG. 53.—*Section.*

set without cavity; basin, medium depth, regular; calyx, open, with long, reflexed segments; flesh white, granular, melting;

coarse granules next the core; sweet, juicy; core medium; seeds large, abundant, light brown. Early in October.

MASTEN'S SEEDLING APPLE.

BY C. R. C. MASTEN.

THIS apple originated upon the farm formerly owned by my father, but now in my possession; in the town of Pleasant Valley, Dutchess County, N. Y. The tree is vigorous, with a broad-spreading, well-formed head. The shoots are stout, leaves of me-

dium size, and blossoms of a beautiful pink color. It is a very desirable apple for the market, as it always is unusually fair, having a peculiar oily skin, looking as if rubbed with a towel, and is agreeable for the dessert or for cooking purposes.

FIG. 54.—*Masten Seedling Apple.*

The fruit very much resembles the white Winter Pearmain in shape, being medium, oblong, conic.

Skin oily smooth, greenish or pale yellow, with a faint blush or warm cheek, thickly sprinkled with minute light blue and brown spots.

Stalk about an inch long, inserted in a narrow, rather deep and pretty regular triangular cavity.

Calyx closed, and set in a basin of moderate depth, which sometimes is a little irregular.

Flesh greenish white, moderately juicy, tender, with a mild, pleasant, and slightly vinous flavor.

Good from December to April.

Washington Hollow, N. Y.

CLEFT-GRAFTING.

WITH SPECIAL REFERENCE TO TREES AND STOCKS OF THE APPLE AND PEAR.

BY D. S. D.

Every recurring spring brings to my ears the same enquiry, "Who shall I get to do a little grafting for me?" My reply is, interrogatively, Why don't you do it yourself? This second question may be of sufficient pertinence to bear substantially, a repetition in the *HORTICULTURIST*; and it may therefore be well to ask, why such an interesting recreation is ever neglected by any intelligent pomologist? No more permanent gratification, in the way of fruit growing, can be expected—or, perhaps, imagined—than that of watching, from time to time, the coalescent growth of an apple or pear scion, as it gradually identifies itself with its foster-parent; until, and even after, its due time of fruitage. Emphatically is this true if Nature is thus set to work by one's own individual act;—a re-creation truly, in its common acceptation, almost a *re-creation*, in fact!

There seems to be more or less mystery overhanging this whole subject, which is entirely imaginary, at least so far as this department of cleft-grafting is concerned. The manual process is surely a plain one; the proper reason is restricted within no narrow bounds; the requisite implements are few and handy; the labor is too slight to be called labor; and, above all, the inducements and the rewards are not excelled in any department of horticulture; while the conditions of success are easy enough for all.

Grafts and grafting wax are matters of merchandise, easily procurable by purchase, and transmissible through mail bags. By so much are we ahead of our forefathers. A brief order, made out by the always-ready assistance of pen, paper, ink, envelope, and stamp, accomplishes the wonder, in this case, as in many others, of bringing to our hands whatever we want, and mak-

ing the distant nurseryman as near to us as the nearest post-office. (Grafting materials, cuttings, seeds, vines, potatoes, and so on;—we can buy them all at the Post-office!)

This then, the only slight trouble in the case being disposed of, we choose a pleasant morning; take a saw in one hand, and, if needed, a ladder in the other; with knife and hammer in one pocket, and wax, wedge, and scions in the other, and proceed to our diversion. The selected stock or limb is sawed off, the stump split down an inch or more, the wedge inserted, the tapered graft or two placed in position, the wax applied to cover up all exposures, and—the thing is done. After a moment's gratifying survey of the "job," we attach a label, and confidently leave the object of our miscegenation in the care of a kind Providence.

Even with such general guidance as the above, no one need ever fail of success, after a few trials; but, to save unnecessary expense of time and patience, let us be more explicit. Any stout two-bladed 'jack-knife,' (the large blade for cleaving the stock, and the small one for shaping the taper of the graft,) and a small wedge of hard wood or metal, will answer; but a grafting-chisel with wedge attached, is better. (This, too, can be obtained at the Post Office.) Grafting wax can be easily made, if it is not desirable to purchase it, by the following recipes:—4 lbs. rosin, 2 lbs. tallow, and 1 lb. beeswax melted together and well incorporated; or the proportion of rosin may be greater, if lard be used instead of tallow; or linseed oil may be used in the proportion of 1 pint to 3 lbs. rosin and 1 of beeswax. The preparation should not be too sparingly used, (as is sometimes the case,) but every part that

needs it should be so well covered that it will be sure to last at least through the whole season.

One essential point in the operation of grafting is to be careful that the inner barks of the stock and scion shall meet at their edges. Practice will soon make this easy of accomplishment; but without practice, it can be made sure, by giving a *slight* inward inclination to the top of the scion, which will bring the edges exactly together somewhere in the desired line of meeting.

The wedge-shaped end of the scion should be a trifle thinner on one of its bark-sides, which should be set inwards towards the heart of the stock, in order that the outer and thicker side may receive the greater pressure when the wedge is removed.

Sometimes it may be necessary to shield a graft from drying wind, or heating sun, which can be done by tying around it a piece of thick, or oiled, paper.

I have cleft-grafted apple trees successfully, at intervals from the 27th of March to the 25th of July,—a space of nearly four months. How much farther, outside of these limits, the practice may be carried, I cannot say; but this distance of dates is sufficiently wide to remove an excuse for neglect which is often offered, in other matters which require more precise and timely action.

Some years since, when my knowledge of apples was somewhat more limited, I purchased a number of trees of a nurseryman, leaving the selection, in part, to him. Among them was a *Gloria Mundi*. As soon as I learned its worthlessness for my use I regrafted the whole of it, at different times, with choice varieties, until it became a propagating-tree, with sixteen different kinds upon it. These it was a great pleasure to see growing, and blossoming and

fruiting; and it was an additional gratification to have the various grafts ready, at all proper times, for my own use, and as gifts to neighbors and amateur friends.

Amputation and cleft-grafting may be recommended for the treatment of pear-blight, in some cases,—perhaps in all,—with timely attention. The topmost limbs of a twenty-year-old pear tree, which had been struck with the blight, (atmospherically?) were sawed off some few inches below the marks of discoloration on the bark, and the exposed surfaces covered with grafting wax, as a protection against injury from the elements. In the following spring these were again shortened by being sawed off a few inches below the original cut, and then grafted with different desirable varieties;—all of which have done perfectly well.

The mysterious influence of stock upon scion in promoting early fruit-bearing is also an interesting result of grafting. A few years ago, in order to test the identity of the Boston Pear, *so-called*, with the Pinneo, I procured a young tree from Boston, and the cuttings which I took from it, and inserted in the limbs of a thrifty old English Jargonelle, produced fruit the next year; while the original young tree did not even blossom until seven years later. The tardy Dix, too, I have known to commence bearing, on a young graft, the first year after insertion. And so of apples,—some of the slowly-maturing kinds have been hurried into early fruitfulness by this method of double-working. Seedlings, also, may be “put through a course of *sprouts*,” “ahead of time,” by the same process.

It may be that *you* knew all about these things before. Perhaps your young horticultural friend did not—for him this is written.

NOTES ON THE FEBRUARY NUMBER.

FIRE ON THE HEARTH.—Ah! how the reading of this brings memories of the broad old kitchen fire-place of my early home; where parents, sisters, and brothers gathered, of a cold, frosty evening in autumn, chatting and laughing, the table loaded with cakes, and various ripe and ruddy fruits from the orchard.

How little Americans, as a people, study the after-influence of a pleasant home for the young. While grasping for money and outward show, the softening, chastening influences of a cheerful home-circle are too often forgotten and neglected.

There is one other association belonging to a home that gives pleasant thoughts to the occupants, as well as to the passing world: it is the opening and using all the house. Too many, especially in the country, shut up their best and most pleasant rooms, to be opened "only for company," and content themselves with rooms that have but a side-view, or, perhaps, only a lookout on to the barn, &c.

I never drive past a house, where the blinds show evidence of the occupants contenting themselves with the working but, necessary part, without at mentally once saying to myself—no comfort there; all for money and show on company days. Nor do I, on the other hand, ever pass a house where the windows give evidence of its occupants enjoying all the house, and especially its most sightly rooms, without involuntarily reining my horse up to the gate that I may make one more pleasant acquaintance in life.

REMODELING OLD BUILDINGS & GROUNDS.

—This is one of the plain, practical articles from which we may learn how much of improved home-comfortableness (I coin the word) and tasty effects may be had from a judicious studying of arrangement. It is not always that costly structures or perfectly prepared gravel or paved walks, give the most enjoyment; and too many pass

on through life with the same old tumble-down gate and rude, unattractive cornices and roofs, when with the use of a few hundred dollars, the whole appearance could be changed, to attract and please not only themselves and their families, but every passer by.

DISCREPANCIES OF THE GRAPE CULTURE.

—Another of the records in Horticulture, illustrative of the fallacy of crying *Eureka* because our experiments in cultivation become a success. Like the talented and venerable writer, I have been laboring years in study of the vine, its habits, diseases, &c., and have now less confidence in my knowledge than I had ten years ago. Reasoning from observation, I should conclude that vines of all the strong, rank-growing sorts would succeed admirably in situations thoroughly drained from stagnant water, and yet where the roots can obtain pure water by stretching down two to three feet. Capillary attraction must also serve to keep the soil always moist to within one or two inches of the surface. All such situations in nature's own planting, or that of the earlier settlers at the West, who planted pears and grapes, &c., by running streams and rivers, exhibit results of healthy and vigorous growth, free from diseases, analogous to the like when grown and pruned according to the high artificial, empirical practice of the "gardener to the Honorable Mr. Buncombe." In such locations as the sides of a ditch, river, &c., I should look for healthy plants, but in wet and cloudy seasons a want of flavor and sweetness in the fruit.

I suggest the application of guano to the muck soil, as, perhaps, a requisite wanted for the Delaware.

FLOWER POTS.—Practical comments, with hints illustrative, but as all reforms are not improvements, so it is doubtful whether a transfer from porous pots to hard-baked or glazed ones may be an ad-

vancement. The condition of the house, its temperature, &c., &c., all should be regarded by the intelligent propagator, and if carefully and common-sensically regarded, I think plants will continue to be grown—as heretofore—in porous, soft baked, as well as hard glazed pots

GRAPES IN 1865.—Thanks for this record. In an extensive correspondence, I have been getting many such records, and it is singular how the whole sums up. Query—Have not all the varieties allied to Isabella, Adirondac, Israella, &c., more disposition to mildew, in both wood and fruit, than those sprung more directly from the Catawba?

ESTHETICS IN RURAL LIFE.—A humorous comment upon the practice of many a would be horticulturist.

GARDENS AND PARKS OF GERMANY.—Every line replete with interesting descriptive record.

THE NEW ERA IN GRAPE CULTURE.—

Mr. Husman has here given us statistical record of profits in grape growing, for which, as one of the readers of the HORTICULTURIST, he has my thanks. Nevertheless, I cannot concede, as yet, that each and every grape grower may realize annually \$6,000 per acre from sale of his grapes and wine produced therefrom.

That Mr. Husman has done so I do not doubt, as he so states it, but it won't answer as a guide-post or prospective view to the grape growers of the States, unless they expect disappointment.

If we take Mr. Husman's 500 Concord vines, or, as he says, four-tenths of an acre, and estimate 160 gallons of wine, (which is all a ton will make of *pure* juice), to the ton of grapes, we have, as a result, over six tons, or say, fourteen tons to an acre. The balance of the figuring is about the same, and while Mr. Husman may lay claim to that amount of product, I doubt if any other vineyard in the States can do so. Missouri is, undoubtedly, a fine fruit State, and I rejoice at this evidence of her productiveness.

Mr. Husman kindly takes me to task, and hints that I am fault-finding in my comments on one of his previous articles. I beg here to assure the gentleman that such an idea as fault-finding never has yet entered my head in commenting on his or other articles. I am a plain old-fogy observer, and my notes are written rather to draw out ideas and practical teachings from their authors, than from any vain imaginings of my capacity to criticise. If I take exceptions, it is not always that I do not myself believe, but that the conclusions or statistics, as the case may be, are so much at variance with generally received opinions as to admit of more light being shed on the subject.

Thanks, Mr. H., for telling how to make and grow cuttings; but in case of varieties like the Delaware, Norton's, &c., that do not strike readily in the open ground, have you ever tried laying the bundles in the ground, on approach of spring, with the lower or butt ends uppermost, and within one or two inches of the surface—leaving them in that position until they have calused, and then planting them out. One grower of my acquaintance practises in that manner and succeeds.

Again, if I mistake not, Mr. Griffith, of North East, Pa.—a gentleman of sound good sense, and possessor of about sixty acres of vineyard—practises growing vines from single buds only, in the open ground, covering with about half an inch of soil and some three inches of fine mulch. Perhaps in a future number he will tell us his way of doing.

Thanks, Mr. Husman, for your invitation to come and see how you prune. Should I do so, it would not be the first time I have enjoyed your genial hospitality, eaten of your grapes, and drank of your wines.

SAP IN TREES AND LEAVES.—Two articles of vegetable physiology that it is well for all to read. They contain no new truths, but the novice in horticultural pursuits should *study* them.

REUBEN.

REPORT ON GRAPES IN MISSOURI DURING THE SUMMER OF 1865.

BY GEORGE HUSMANN.

THIS was one of the most trying seasons for grapes here, the summer being excessively wet, and but few varieties escaped altogether. The prospects for a most abundant crop have, perhaps, never been so good than they were about the middle of July. The grapes had set finely, and developed rapidly. But excessive rains brought on mildew, rot, and all the evils to which grapes are subject, and but a few of the most healthy varieties escaped altogether. The following observations have been mostly taken on my own ground, and I will let the grapes follow in alphabetical order.

1. *Alicanthe*.—Foreign; mildew on leaf and fruit; rotted badly; no fruit ripened.

2. *Allen's Hybrid*.—Mildew on leaf and fruit; some rot; ripened imperfectly about half a crop.

3. *Anna*.—Mildewed badly; subject to all kinds of diseases; worthless with me.

4. *Alvey*.—Some mildew, no rot; ripened its fruit very well; promising.

5. *Arkansas*.—Entirely healthy; ripened a fine crop of fruit; valuable for red wine.

6. *Arrott*.—Subject to leaf blight; no rot; ripened a tolerable crop of fruit.

7. *Brinkle*.—Entirely worthless; poor bearer; subject to every disease.

8. *Baxter*.—Some leaf blight, but ripened a good crop of rather indifferent fruit, which may make a pretty good red wine.

9. *Blood's Black*.—Entirely healthy; abundant bearer of very early fruit of tolerable good quality; valuable as an early market grape.

10. *Brown*.—Somewhat better than Isabella; subject to leaf blight; no rot.

11. *Concord*.—Some rot in some locations, but ripened an immense crop of very good fruit; foliage entirely free from any disease.

12. *Clara*.—Some mildew on the leaves, but ripened a good crop of fruit, of excellent quality.

13. *Creveling*.—Tolerably healthy; fruit of very good quality, bunch rather loose; promises well.

14. *Cassady*.—Mildew and leaf blight, no rot; fruit ripened imperfectly.

15. *Clinton*.—Healthy, and made a good crop.

16. *Cunningham*.—Healthy; ripened a very full crop of fruit, which made a very good wine, and a good deal of it; valuable for the West, in some soils, as a wine grape of high character.

17. *Cape*.—Badly affected with leaf blight no rot, ripened its fruit imperfectly.

18. *Cynthiana*.—Perfectly healthy; ripened a fine crop of fruit; very valuable as a grape for red wine.

19. *Catawba*.—Affected by all diseases, mildew, rot, leaf blight; almost a failure; should be eradicated, and Concord substituted in its place.

20. *Canby's August*.—Set its fruit badly, and ripened it poorly; of no value here.

21. *Cuyahoga*.—Subject to leaf blight, mildew, &c.; a very insipid fruit; worthless.

22. *Delaware*.—A very full crop, which, in consequence of leaf blight, dwindled down to a very small one; no rot, but the fruit ripened badly; a fine grape, but does not suit every soil, and has been much overpraised, as it evidently is only adapted to certain localities.

23. *Diana*.—Mildewed badly, and is evidently too much like its parent to be of much value here.

24. *Dracut Amber*.—Healthy, but very foxy; poor quality; very early.

25. *Devereaux*.—The leaf mildewed badly, and the fruit was imperfect.

26. *Ewing's Seedling*.—A tolerably good grape, of the Isabella class, but better in quality; somewhat subject to leaf blight.

27. *Northern Muscadine*.—Healthy, hardy early, and productive, but too foxy.

28. *Elsinburgh*.—Mildews badly; of no value here.
29. *Garrigues*.—A very good Isabella, subject to leaf blight; not desirable.
30. *Garbers Albino*.—Somewhat subject to leaf blight; a poor bearer; of good quality.
31. *Hartford Prolific*.—Healthy, hardy, and very productive; of fair quality; a very valuable early market grape.
32. *Herbemont*.—Healthy, but little subject to any disease, and is, in most of our locations, a very abundant bearer of excellent fruit; a very heavy crop, well ripened, but rather late.
33. *Iona*.—Rotted more than any other grape I had; of twenty bunches, I did not save as many berries; must do better in future, or it will be of no value here.
34. *Israella*.—Tolerably healthy; but the fruit ripened later than Hartford Prolific, and was very insipid.
35. *Isabella*.—Subject to leaf blight and rot; of no value here.
36. *Kingessing*.—Mildewed badly, and lost all its leaves; poor quality.
37. *Lenoir*.—Healthy, and of good quality, but poor bearer.
38. *Lake*.—Leaf blighted badly, and the fruit was of poor quality.
39. *Louisiana*.—Healthy, and makes a superior wine, but seems to be a shy bearer.
40. *Martha*.—Of all the *new* grapes, this promises best here; healthy, hardy, a good bearer, and of very good quality; a white Concord, but sweeter than its parent.
41. *Mary Ann*.—Healthy, very early, and very productive, but of inferior quality; profitable for very early marketing.
42. *Marion Port*.—Of the same character as Hyde's Eliza; of no value when better varieties can be had.
43. *Norton's Virginia*.—Good in every respect; an immense crop.
44. *North Carolina Seedling*.—Foliage healthy, some rot on fruit, but ripened a very heavy crop of early, showy fruit, of good quality; valuable as an early market grape.
45. *North America*.—Very early, and of good quality, but very small bunches; healthy.
46. *Oporto*.—Of no value whatever; a complete humbug.
47. *Ontario*.—Resembles Union Village; some leaf blight; fruit very large, but did not ripen well.
48. *Preschel's Mammoth*.—Healthy in fruit and foliage; very large fruit; showy; tolerable quality.
49. *Perkins*.—Healthy, hardy, productive, and early; a good early market grape, but very foxy.
50. *Rebecca*.—Leaf blighted badly; fruit tolerably good, but a poor grower and bearer.
51. *Rosine of Smyrna*.—Leaf blight and rot; fruit ripened imperfectly, but is very handsome.
52. *Rulander*.—Very healthy; makes a superior wine; rather poor bearer.
53. *Rogers' Hybrid, No. 1*.—Healthy, fine in every respect, productive, valuable here.
54. *Rogers' Hybrid, No. 6*.—Healthy, very good.
55. *Rogers' Hybrid, No. 15*.—Subject to leaf blight and rot; rather indifferent quality.
56. *Terre Promise*.—Leaf blight and rot ruined the fruit entirely.
57. *Taylor*.—Healthy; produced a good crop; will make a fine white wine.
58. *To Kalon*.—Very unhealthy; of little value.
59. *Union Village*.—Leaf blighted, and ripened the fruit imperfectly.

When we come to sum up this season's experience, we find that the old standard varieties, Norton's Virginia, Concord, Herbemont, and Hartford Prolific, have again proven that they can be depended upon here. The Clinton may, perhaps, be included, but I would rather plant the Concord as a wine grape, if I had my choice. I think the wine is more agreeable, and it will turn out more to the acre than the Clinton. Among those *promising well for wine*, I will name the Alvey, Arkansas, Creveling, Cuning-

ham, Cynthiana, Louisiana, Martha, Rulan-der, Taylor. Among those promising well for table and market, Blood's Black, North Carolina Seedling, Perkins, Rogers' Hybrid Nos. 1 and 6. These are all healthy enough to be depended upon *here*.

This, Messrs. Editors, is *Missouri experience*. I do not pretend to say that it could serve as a guide for *other localities*. I do not believe that *one* grape will do for the *whole* country, from Maine to California, as some claim for the Delaware; nor do I set up to be an authority. This cheap glory I leave to some other gentlemen, who pretend to

be the only good and rational propagators, as well as guides in grape growing. I would caution again and again, and I think that caution can not be repeated too often, against following blindly in the wake of professional men, and planting a certain grape, for instance, in Illinois, because it is successful in Pennsylvania. Let every one try for himself, and accept counsel from others, even the most reliable men, *only* with due allowance for difference of climate and soil.

Hermann, Dec. 20.

GARDENS AND PARKS OF GERMANY.—*Concluded.*

And now a word about rural Germany. A German rural landscape, finds no counterpart in our own land.

Fences are nowhere to be seen, and hedges only as ornaments. No houses, neither barns, are scattered along the roadsides.

The tillers of the land live together in little hamlets. Their houses are generally small, and one-storied, built of stone and a coarse mortar made of mud and straw. Most of them are whitewashed, and the roofs are steep and covered with red tiles. These little houses are built close together, having barns attached. They have no door-yards but front directly upon the paved street. A German village presents few attractions; there is nothing rural or pleasing about one. Hardly a spear of grass or a shrub grows within its limits, and none reside there except the peasants, a parish minister, a shoemaker, and a half dozen more such worthies. The villages are for the peasants, the cities are for the other classes. Such little hamlets seen from a distance, look charming and picturesque, situated right in the midst of green fields, and often upon some little rushing watercourse, the bright red roofs and little church spire, rising up from among a perfect grove of fruit and nut trees; but as

you enter the place the charm vanishes. The absence of all fences and hedges gives to the country a more expansive appearance; but you seldom see large fields of any one crop. The land is tilled by so many small proprietors, that the whole surface of the country looks like a great agricultural Mosaic, made up of numberless little patches of various staples. Here a little strip of wheat, there a square of potatoes, next a strip of beet, and another strip of wheat, and so on ad infinitum. The highways are irreproachable, just as hard and smooth as bowling alleys. They are all Macadamized and very broad, perfectly drained, and always in good condition. I never yet saw a highway in Germany which would not answer for a trotting course. They are all built and cared for by the government, and hence their excellence. They are always lined with trees, sometimes merely ornamental, but generally combining the useful with the beautiful. One of the most delightful drives that I ever took, was from the old historical town of Jena to Wiemer. It was about fourteen miles over a picturesque and undulating country, and it was the roadsides which most of all attracted my attention. In some places they were adorned with trim evergreen hedges; in other with close-

ly cut dense foliated beeches. These were quite small and shrublike, and cut out into various shapes. Some were pyramidal, some round, some oval, some curved in from a broad base towards the top, and others from a broad top towards the base. Some were so cut as to represent a series of rings, others a series of pyramids, and no two trees looked alike. It is wonderful how much in this way can be done with the beech, and the Germans seem very fond of using it for ornamental purposes. For miles along this road were cherry and pear trees, and alternating with these were beautiful mountain ashes, laden with clusters of brilliant berries. These added much to the beauty of the scene, but I do not think that ornament was their only purpose, for they did good service in attracting the numerous birds from the cherries. And would you see a charming landscape, not of grandeur but of quiet beauty, come to Jena. It lies most picturesquely upon the little Saale, which winds through the green fertile valley like a silver band, while on its borders flourish clustering willows and aspens; and ever and anon the foliage broadens out to form beautiful groves, in which the mighty horse chestnut and fragrant linden predominate. Around this landscape in the valley, is set a girdle of hills varied and attractive. At their foot and up their more sloping sides, are green vineyards and fruitful orchards, and further up on to the summit, are in some cases, dense forests of evergreens; or again, bare stratas of rock. And standing upon one of these summits, you see the valley of the Saale stretching out for miles before you, rich in vegetation and dotted all over with little red-tiled hamlets nestling in among the trees. Right below lies the ancient city, with her old towers and winding streets, rich in historic associations. Beyond, towards the north-west, stretches out the famous battle field, and far in the distance rises the western boundary of the Thuringian forrest, while here and there on the surrounding hill-tops, you catch a glimpse of some old castle ruin. Here a lone tower, there a solitary

crumbling wall, alone remaining to tell of the many strongholds which centuries ago protected this fair valley against the fierce inroads of heathendom. A German autumnal forest cannot compare in beauty with those which crown our own hillside, for the glowing varied splendor of the maple is wanting. But I never beheld a more beautiful landscape than that which spreads out around, before and above you, as you stand of a bright October afternoon, on the grand terrace above the ancient Castle of Hiedelburg. Right below lie the mighty towers and ivy-crowned battlements; the frowning ramparts and grass grown courts of the proud old stronghold of the Electors and Count Palatines of the once mighty Rhine Palatinate crowning with its vast ruins the projecting forehead of the Jetten bühl.

Just below stretches the town long and narrow, with red-tiled roofs and tapering spires. In the valley the green Neckar, smoothest of rivers, glides noiselessly by. On the right, green banks come down to meet the stream, while up the hill-side, the vineyards are yellow, on the southern slopes. Farther up all around you, the oaks and chestnuts have put on their rich chocolate and amberdyed liveries, which form a pleasant contrast to the dark evergreen foliage which crown the summits of Odenwald. To the westward opens the broad, fair plain of the Rhine, a blooming garden, through which the Neckar winds its course like a bow of steel, until your eye rests upon the lofty spires of Manheim, and a line of white vapor extending along towards the north indicates to you that there runs the mighty Rhine, while far beyond, the blue Alsatian hills stretch away in the dim distance, joining the clear bluesky, which curtains in the scenes.

"Oh, could I wish a fairy dream,
Of fragrance, light and sunny skies;
There on the Neckar's winding stream,
Famed Hiedelberg, I most should prize;
From thy old mouldering castle wall,
Thou fair Alhambra of the Rhine;
Behold that vale surpassing all,
And thousand greetings should be thine."

GLEANINGS.—*Continued.*

IV.

To the lover of nature, the trees, in casting off their summer garments of rich leaves, only reveal to him fresh objects of beauty and delightful study in the marvellous construction of their noble skeletons; in the exquisite tracery produced by the intermingling of myriad branches and delicate twigs; in the lavish variety of character stamped upon each separate species of tree, and upon each individual of that species. "I do not propose," says Ruskin, in his "Modern Painters,"—"to examine the characteristics of each tree; it will be enough to observe the laws common to all. First, then, neither the stem nor the boughs of an oak, elm, ash, hazel, willow, birch, beech, poplar, chestnut, pine, mulberry, olive, ilex, carob, or whatever the tree may be, *taper*, except where they fork. Wherever a stem sends off a branch, or a branch a lesser bough, or a lesser bough a bud, the stem or the branch is, on the instant, less in diameter by the exact quantity of the branch or the bough they have sent off, and they remain of the same diameter; or, if there be any change, rather increase than diminish, until they send off another branch or bough. This law is imperative, and without exception. No bough, or stem, or twig, ever tapering or becoming narrower towards its extremity by a hair's breadth, save where it parts with some portion of its substance at a fork or bud, so that if all the twigs and sprays at the top and sides of the tree, which are, and have been, could be united without loss of space, they would form a round log of at least the diameter of the trunk from which they sprang.

But as the trunks of most trees send off twigs and sprays of light under foliage, of which every individual fibre takes precisely its own thickness of wood from the parent stem, and as many of these drop off, leaving nothing but a small excrescence to record their existence, there is frequently a slight and delicate appearance of tapering caused

in the trunk itself; while the same operation takes place much more extensively in the branches; it being natural to almost all trees to send out from their young limbs more wood than they can support; which, as the stem increases, gets contracted at the points of insertion, so as to check the flow of the sap, and then dies and drops off, leaving all along the bough, first on one side and then on another, a series of small excrescences sufficient to account for a degree of tapering, which is yet so very slight, that if we select a portion of a branch with no real fork, or living bough to divide it, or diminish it, the tapering is scarcely to be detected by the eye; and if we select a portion without such evidences of past ramification, there will be found none whatsoever.

But nature takes great pains to conceal this uniformity in her boughs. They are perpetually parting with little sprays here and there, which steal away their substance cautiously, and where the eye does not perceive the theft until a little way above it feels the loss; and in the upper parts of the tree, the ramifications take place so constantly and delicately, that the effect upon the eye is precisely the same as if the boughs actually tapered, except here and there where some avaricious one, greedy of substance, runs on for two or three yards without parting with anything, and becomes ungraceful in so doing."

V.

TAKE one of those little flowers which cover all the pastures, and which everybody knows by the name of daisy. Look at it well; for I am sure you would not have guessed, by its appearance, that this flower, which is so small and delicate, is really composed of between two and three hundred flowers, all of them perfect; that is, having each its corolla, stamens, pistil, and fruit. Every one of those leaves which are white above and red underneath, and

form a kind of crown round the flower, appearing to be nothing more than little petals, are in reality so many true flowers; and every one of these tiny yellow things also, which you see in the centre, and which at first you have, perhaps, taken for nothing but stamens, are real flowers.

If you were accustomed to botanical dissections, and were armed with a good glass, and plenty of patience, it would be easy to convince you of this. But you may at least pull out one of the white leaves from the flower; you will at first think it is flat from one end to the other; but look carefully at the end by which it was fastened to the flower, and you will see that this end is not flat, but round and hollow, in form of a tube, and that a little thread, ending in two horns, issues from the tube; this thread is the forked style of the flower, which, as you now see, is flat only at the top.

Next look at those yellow things in the middle of the flower, and which, as I have

told you, are all so many flowers. If the flower be sufficiently advanced, you will see several of them open in the middle, and even cut into several parts. These are monopetalous corollas, which expand; and a glass will easily discover in them the pistil, and even the anthers with which it is surrounded. Commonly the yellow florets towards the centre are still surrounded and closed. These, however, are flowers like the others, but not yet open, for they expand successively from the edge inwards. This is enough to show you by the eye, the possibility that all these small affairs, both white and yellow, may be so many distinct flowers; and this is a constant fact. You perceive, nevertheless, that all these little flowers are pressed and enclosed in a calyx which is common to them all, and which is that of the daisy. In considering, then, the whole daisy as one flower, we give it a very significant name when we call it a *composite flower*.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

IMPROVE YOUR PLACE.—The true lover of rural life is known partly by his disposition to improve or change the present condition of his place. As time passes, events occur, new plants come up, etc., changes must be made, new arrangements formed, or the whole becomes confused. He who truly loves his rural home, and enjoys the growth of tree and plant, will be found constantly making changes, while the show amateur leaves the gardener to keep all clean and tidy, because his place is *finished*. Heaven save such a man, and send him back again to his "cotton and sugar trade," for he has no business in the country.

OSAGE ORANGE AS AN ORNAMENTAL TREE.—In ornamental planting, the spreading, rather drooping, elegant habit of the Osage Orange, together with its rich glossy foliage, seems to have been, in a great measure, overlooked. As a tree of second-class station, it has few superiors as regards beauty, and especially when laden with its fruit.

Three or five Osage Orange trees, planted as posts for an arbor, and, as they grow, having their tops intertwined, form one of the cheapest, and yet effective, and satisfactory of summer arbors.

In advertisement "Kitchen Garden Seeds," of Messrs. McElwain Bros., Springfield, Mass., in our March number, some of the type slipped out of the form on being put upon the press. It should read 20 varieties for \$1.00. We have no doubt that whoever sends them the dollar will get their moneys worth and more too.

STURTEVANT PEACH.—To lovers and growers of the peach, no one sort deserves more attention, and has received so little as the Sturtevant. It is much like Bergen's Yellow in appearance, a trifle larger, smaller pit, equally sweet—a hardy, vigorous, growing tree, and a good producer.

THE MAHONIA AS AN ORNAMENTAL HEDGE.—Among all our hardy shrub evergreens north of the latitudes of Philadelphia, the mahonia makes one of the best and most ornamental of low boundary hedges. The plant is nearest to the holly of the old country of any plant that is hardy; it is easy of cultivation, bears the shears, is very ornamental when in flower, and afterwards in berry or fruit.

There are several varieties of it, differing only in size and form of the leaf, but in forming a hedge they may be worked in without reference to their botanical difference. The plants can be moved in autumn or spring, but April and May are the best months for transplanting them.

SOIL AND MANURE FOR DWARF PEAR TREES.—Of all the fruit trees planted, probably no one kind return, in proportion to the number of trees planted, as little return as dwarf pears. This is partly from a want of knowledge of how to prune, partly from neglect in pruning, or so pruning as to injure rather than benefit, partly from planting the tree in unsuitable soil, and partly from want of knowledge in supplying manures.

Of the last two items only will we now write. Too many are under the impression that dwarf pear trees should be placed

in very rich, deep soil, and then annually dressed with three to four inches deep of well-rotted barnyard manure; for such has been the "written and published instructions." The result of such course generally exhibits itself in a strong, vigorous growth of wood, about as close-grained as an elder-bush, and liable to atmospheric injury—*i. e.*, blight—as well as presenting additional attraction to the insect *scolytus pyri*, the blighting effects of which are occasionally to be found, but not by any means as often as the injury from atmospheric influence.

We speak of this rank growth from the influence of free and heavy annual dumpings of animal manures, because such have been the result of our observations in watching dwarf pear growing many years. And now, while we would choose a good heavy clay soil, moderately rich, as the bed, we would prefer a poor clay and no animal manures, to a rich deep soil and heavy dressings of manures. A calcareous clay, a gravelly clay loam, a good ordinary clay loam, or corn ground and a poor hard clay, will all grow dwarf pears satisfactorily, both in tree and fruit; while a sand, or sandy loam, or a muck soil, will in nine cases out of ten result in disappointment. A heavy dressing of animal manure annually will generally result in blight and death of the tree within ten years; while a simple dressing of two bushels of salt and one of plaster of Paris (gypsum) annually, with frequent stirring of the ground during the growing season, will as a general thing result in healthy trees and fine fruit.

The whys and wherefores of this statement can be written if necessary, but here we do not so deem it, and therefore only name the results of long practical observation.

ABOUT twenty-five years ago we planted an Isabella grape-vine by the side of the barn. We had read that vines require animal and other rich fertilizing manure, so whenever an animal died, we dug a hole

three or four feet from the building and threw it in. Although so highly enriched, as we thought, it did not grow as well as others that had but little of such materials, and last fall we dug it up and planted a Hartford Prolific in its place. Judge of our surprise when we found in the rich black mass, where many years ago we had thrown the dead animals, not a root. They all avoided it, and the larger part went under the barn, or rather the foundation wall. If we had made a compost with our dead animals and forked it in around the roots, probably it would have grown and borne luxuriantly, for Isabella does grow very well with us if trained against buildings.

ISAAC HICKS,

North Hempstead, L. I.

INQUIRIES ABOUT THE PEAR WHEN WORKED, ON MOUNTAIN ASH, THORN, &c. A subscriber in Ohio says he has been examining dwarf pear-growing, and finds that the most successful growers advocate planting the tree so deep as that it may take root with the pear stock; and that, as every variety does not readily grow on the quince, or strike out roots when planted in the ground, the practice is to select one or more sorts that readily take on the quince, and then, after the first years growth from the bud, again bud with the untractable variety some eight or more inches above the union of the first sort with the quince. Our subscriber asks if this getting the dwarf to grow from the pear root is essential; and, if so, then why will not the mountain ash, thorn, or apple, act as a conductor or root to the pear for a year or two as well as the quince. And further, he says, if the quince is used, is there any difference in varieties for the purpose?

To these inquiries we purpose brief answers, but shall be glad, also, to have our friends send us their views, as the subject is one of considerable moment.

First, we do not consider it essential to successful and permanent effect that the pear, when worked on the quince, should

take root from the pear; but we do consider it essential that the quince stock should all be below the surface of the ground, in order that the return flow of sap from the pear may be freely returned to the quince roots; for, when the quince is all below ground, roots form from it even up to its junction with the pear; but when the quince is any portion of it above ground, its bark dries and hardens, preventing an even and regular return from the roots. The roots thrown out by the pear stock, when below ground, serve to add vigor to the tree; and, as they are lateral roots, so this vigor is imparted more to the spreading than upright habit of the tree. Again, it is rare that the pear sends roots from its own stock until after the tree has been in bearing two or more years, and acquired the habit of mature age, never again to return to youth.

For small grounds, where trees are to stand eight feet distant from each other, as is generally the practice in planting, the striking of the pear in its own root must, in a few years, necessitate a system of root as well as branch pruning, in order to keep the tree in the space allotted it; and, if root-pruning is to be practised, then, as well take the pear on its own roots, and commence at once.

Second—If in growing dwarf pears the object be to get them once into bearing, and afterwards root prune, because of the pear having struck root, then we see not why, in certain soils, the mountain ash and thorn may not answer a good purpose. The ash, however, will not succeed in cold or wet locations, like clays, &c., and it is liable to attack of the borer when grown in light dry soils, but some of the best Belle Lucrative pears we ever ate were grown on mountain ash stock.

The thorn is hardier than the ash, and clays and wet do not apparently affect it more than the quince. Its abandonment for the quince, we opine, has been rather from the greater facility of getting quince stocks than any valid objection to the stock

itself. The largest Seckel pears we ever saw were grown on a thorn stock.

The apple, although at first uniting with the pear apparently well, and growing, perhaps two years, vigorously, then becomes checked, and within the next two years either dies entirely, breaks off, or remains a stunted dwarf, that no system of culture that we have tried would invigorate.

Lastly—The question as to difference in varieties of the quince for stocks, we consider answered, by saying that there is no more difference in quince stocks to work the pear upon than there is in apple stocks to work the apple upon. If the stock is a vigorous thrifty grower, it is a good stock. Unfortunately, a great many quince stocks have been grown from seed, and used as apple stocks indiscriminately, without regard to their vigor or adaptation to the purpose sought. Other quince stocks have been grown from cuttings, made also without reference to the habit of the plant or tree from which the cutting was taken. This indiscriminate manner of working the pear, as well as the apple, &c., in a great measure accounts for the want of success obtained by some planters, and also for the irregular and unequal vigor of trees when grown in nursery-rows and orchards.

SWEET APPLES.—Why is it that sweet apples are so little noticed and planted.—We have sixteen acres of orchard, about twenty years planted, and we find, for family use, sale in New York market, stock, and cider, they are full as valuable as acid apples. We have them on the table (except the present year), baked nearly every meal, and are of good kinds. They are excellent to eat as a dessert. Put them in the stove oven when cooking the dinner, and they require no peeling or coring, no sugar, and are a good substitute for pies and pastry, and far more healthy. We have the Summer Bough, succeeded by Golden Sweeting, Jersey Sweet Corlies, Fall Bough, and Willis Sweeting, the best of all. Pound Sweeting, Ladies' Sweeting,

Moore's Sweeting, and Talman's are good for winter use. Fine baked apples, eaten with pure rich milk, is about the best supper we have among farmers. We find no difference in the market price, if they are only handsome and in good order. An easy and a good way to cook sub-acid apples is to cut them in two, put about a tea-spoonful of sugar to a large apple, put them in a dish after cutting out the blossom and stem, put another layer on these same as before, and then cover with a dish or cover that fits close, and cook until done. The taste of the fruit imparted by the skin and seeds is very fine. Baldwin and H. Nonsuch are especially nice cooked by this method. A correspondent enquired a few weeks past about planting an orchard around his house. We like to have an orchard as near to the house, especially the summer varieties, as may be; but other shade trees are better in close proximity. Give the apple, cherry, and pear trees a field by themselves, and give them the proper care, and they will repay for the attention, but they make poor lawn trees, and, as they require to be cultivated, and sometimes get full of weeds, as young orchards are prone to, would present an unsightly object in front.

ISAAC HICKS, *North Hempstead, L. I.*

WHERE is there a plant which, during the autumn and winter months, is so gay or beautiful as the Primula? It is also very useful for exhibition or decorative purposes, or for filling the flower vase or bouquet. By artificial light, some of the varieties are very brilliant. During the last season a number of very beautiful double seedlings have been brought before the public, especially those of Messrs. Windebank & Kingsbury, of Southampton, who, at the present time possess some very splendid seedlings.

Where high cultivation is aimed at, care must be taken to keep the plants healthy at all times. I generally sow the seed in March, or in April, in pans placed on the front shelf of the greenhouse or vinery. I

find that to bring the seedlings up well, nothing is so good as putting a square of glass over each pan, and as soon as the plants appear, I remove this to prevent their being weakened. When strong enough I put them in small 60's (3 inch pots), using for soil half leaf mould, loam, and a little silver sand. I keep them in a close frame for a few days till well established, when I give air freely on all favorable occasions. Early in May I repot the plants into 32's (6 inch pots), using the same description of soil as before. I now plunge them in a cold frame, in a shady situation, for the summer months, and in the end of July I repot into their blooming pots, 24's (8 inch pots), using a mixture of half leaf mould and a little rotten dung and silver sand. I then replace them in the frame as before, and am always very careful not to allow them to get dry during the summer, as nothing is so injurious to them. Early in September I remove them to the greenhouse, and I thus secure a good supply of bloom for the autumn and winter months.

J. C. HIGGS, *Florist and Pomologist.*

ST. LOUIS HORTICULTURAL SOCIETY.—At the annual election of this Society, the following named gentlemen were elected officers for 1866, viz.:

Norman J. Colman, President.

C. M. Saxton, Vice-President.

J. H. Tice, Secretary and Treasurer.

The Society then took up for consideration the importance of establishing a Horticultural bazaar in St. Louis. All seemed to feel the importance of having a Horticultural House, where the producer could send all his fine fruits and flowers to sell, and where the citizens would know where to go to buy them. A committee was appointed to take steps towards the organization of a joint stock company for that purpose.

A number of samples of wine were tested, viz.: Concord, Virginia Seedling, Herbemont, Cyinthiana, &c. They were presented by the President and by Louis Wolfe, Esq.

FUCHSIA.—*Prince Imperial*.—We have met with but indifferent success with the Fuchsia as a plant for winter blooming until we obtained this variety. Mr. Peter Henderson sent us a small plant last spring, which was planted in the open ground last summer, where it was soon in bloom. In October the plant was lifted, potted and placed in the greenhouse, where it continued to bloom profusely until the middle of January. After a short rest, it is now, March 1st, a mass of bloom. As a variety for pot culture for winter bloom we doubt if it has a superior. Corolla, dark purple changing to scarlet; sepals, bright scarlet, plant of dwarf compact habit.

PHILADELPHIA, Jan. 19, 1866,

MESSRS. WOODWARD:

Will you oblige a Philadelphia subscriber to the HORTICULTURIST by giving, in the February number of your journal, some information in regard to the planting of a Peach Orchard, and also a few practical hints on the Peach Tree, &c.?

And oblige a regular subscriber who is going to plant a Peach Orchard the coming spring, in the southern part of Maryland.

Yours, &c.,

PHILADELPHIA SUBSCRIBER.

The soil and site for your proposed orchard is probably already selected, so that it only remains for us to say, it is a mistaken notion that a poor soil for the peach is the best. True, the peach will grow and bear tolerable crops where other fruit trees would hardly exist, but to produce crops of fine fruit, a rich soil of a sandy nature should be selected. Your trees should be planted about twenty feet apart each way, and the ground kept under culture of some kind.

For market purposes we would recommend the list of varieties given by Isaac Pullen, Esq., of Hightstown, N. J., published in our February number. Mr. P. has had large experience as a grower for market, and his selection of kinds can be relied upon. You will have to look out sharp for the peach-borer. Examine your trees twice

every year, spring and fall, and cut the worms out. Do not be satisfied with poking a wire into their holes, which is a very uncertain way of killing them. The best instrument for the purpose is a half-inch gouge, kept sharp. A small mound of ashes or air-slacked lime, kept around the body of the tree, will keep the borer from entering at or near the root, but will not prevent entirely his attacks. The exudation of gum is generally, but not always evidence of the borer's presence. For the yellows we know no effectual cure, and should recommend the eradication of the tree root and branches on which this disease makes its appearance.

MESSRS. EDITORS:

I always make it a point to read the advertisements in your Magazine, and am pleased to note that the grape-vine men have omitted any longer to offer the "Box layers for immediate fruiting" as the shortest mode to induce those who are getting the grape fever to part with the six dollars for a basket layer, in the belief that it is worth more and will fruit earlier, enabling the owner to pick nice grapes of his own raising the same season of planting. Down with all such humbug in grape culture. Do not teach new beginners to expect impossibilities. Rather let the statements be truthful, or even short of it; they are quite startling enough to make one wonder why men go so far off to seek investments in gold mines, or to bore for oil, when fruit and wine (at present prices) yield so largely. It is your duty, gentlemen, and I know it is your wish, to guard your readers against frauds and over sanguine estimates.

ONE WHO HAS "SUFFERED SOME."

FISHKILL LANDING, Jan. 12th, 1866.
MR. EDITORS:

I do not agree with your intelligent correspondent's (Mr. Peter Henderson) article, called, "What not to do," more es-

pecially in that part of it relating to plant-growing.

It is just nineteen years since I went a journeyman to Chelsea Botanic Garden, and since that time have been more or less engaged in that branch of gardening—"Plant Growing;" and I never saw or heard of anybody succeed in growing hard-wooded New Holland plants, such as Heaths, Epacris, Acacias, or even Camellias, &c., without plenty of drainage. In fact, if the soil in the pots is not allowed to get dry enough to receive water almost daily, the plants are not in a thriving condition. For it is not so much the soil that feeds the plants, as it is the chemical substances of which the water is composed.

Now, for instance, how would epiphytal orchids do to be planted in rich soil? Or you can take terrestrial orchids, if you please, which are not so difficult to grow; without drainage, they would not grow at all. There are a great many other things I could mention that would not live a single week by Mr. H.'s method of growing soft-wooded plants; and if he had to make a living by cultivating hard-wooded plants, he would then be very soon compelled to change his plan.

If Mr. Henderson chooses to confess, he saw much better specimens of plants grown in the British Isles, when he was last there, than ever he saw in the neighborhood of New York, or any other part of the world. The English journals will be sure to see his article, and will not fail to whip him right and left.

I invite him to come up to Fishkill and see how the orchids grow with abundance of drainage.

I heartily agree with him in saying that the stones at the roots of the apple trees are of no service whatever—more harm than good, because the water is retained at their roots.

I know very well how to grow plants, but would like to hear about the club root cabbages. I am, gentlemen, sincerely yours,
JAMES COWAN.

HARTFORD, Feb. 20, 1866.

MESSRS. WOODWARD :

Seven years ago, at the annual meeting of the Connecticut Grape-Growers' Association, it was voted that the Delaware Grape "promises to stand exceedingly high." A resolution was also adopted, recommending for general cultivation, the following grapes, in the order in which they stand, namely, Diana, Isabella, Hartford Prolific, Concord.

At the recent meeting of the Fruit Growers' Society of Western New York, which was more fully attended than on any previous occasion, ("nearly four hundred persons being present,") a ballot for the best varieties of hardy grapes resulted in placing these varieties in the following relative order of merit, namely, "Delaware, Diana, Isabella, Hartford Prolific, Concord," &c.

The coincidence is noteworthy, and is one of marked significance, which those who are intending to plant grape vines will do well to heed, as such verdicts are intended to go before the public as the authoritative renderings of well-informed juries.

This decision, arrived at on general principles, indicates, probably, as reliable a selection as can be made, at the present time, for garden and vineyard culture in Southern New England, and Southern and Western New York, and "certain localities" further west. In some particulars it may not meet all the requirements of each one's particular case, so that, if either one, or more than one, of the above fails to give general satisfaction, in any one place or vicinity, it is advisable to substitute some variety which is known to succeed, and to add to them some one or more of the numerous untried novelties.

My individual practice has conformed to the above, for I have been adding, year after year, to my small vineyard, more or less of all the well-known kinds above enumerated, (with the exception of the Isabella;) while, at the same time I have also planted out, for trial, almost every new

kind of promise. I find imperfections in them all, old and new. The Delaware mildews, the Diana is unreliable, the Isabella is tardy, the Prolific is inclined to drop some of its fruit, the berries of the Concord are thin-skinned and perishable; Rebecca is delicate, Creveling loose-bunched, Manhattan, Union Village, Catawba, and Anna late and uncertain, Northern Muscadine foxy, Yeddo tender; and so on.

I have grown and fruited Iona and Israella, and am disposed to think well of them, but a close-observing correspondent of the *Gardener's Monthly* says of the former that "it drops its leaves and shows more marked symptoms of disease than the Catawba which is by its side;" and of the latter, a Massachusetts correspondent of the *HORTICULTURIST* says, "it mildews badly." The Adirondac looks well, with me, in wood and foliage, and I am inclined to recommend it extensively for trial, although the few reports which have been made public with regard to it, during the past year, have not been uniform in its praise. Allen's Hybrid—so far as I have tried it—appears to be more perfect, or, in other words, less faulty, than any of the new grapes; and it seems to be gaining in popular estimation. Not one of the whole forty-four of Rogers' Hybrids can be said to have given entire satisfaction;—and so we might go on with specifications, but the road would lead us around and back to our starting place, and content us, probably, to make use of the few tried varieties which, although lacking in one or more of the elements of perfection, were the best which could be recommended by the Connecticut Congress of grape growers, in 1849; and by the New York pomologists in 1866.

D. S. D.

MT. CARROLL SEMINARY,
CARROLL Co, Ill., Feb. 7, 1866.

EDITORS OF HORTICULTURIST:

Noticing inquiry "How to prepare white oak posts for vineyards to prevent decay," it occurred to me to submit my plan for the

benefit of your correspondent, and for the criticism of your readers. I say criticism, because I am an "amateur horticulturist," and "only a woman," and hence do not presume the plan is perfect by any means, and if I can draw out criticism, or suggestions or experience of others, by which I may profit, I may be more the gainer than your correspondent. Having about one thousand posts to set in our vineyard the coming season, and wishing to use timber from our own wood-lot, I set about planning some way to improve and make it more economical than to buy yellow cedar, at \$28 per hundred. So to my plan. I had my posts cut in the fall and early winter, the bark and roughness dressed off, and piled in loose ranks for seasoning. Have a tank made of the best sheet iron, forty inches deep, and over two feet in diameter. Have a grate made of oak sticks about an inch square, to cover the bottom inside, to receive the blows, should a post be let down hard at any time. Have an old superannuated cook-stove placed out of doors, on which the tank or boiler is set. Fill the boiler with posts placed the top end (*i. e.*, the end that was toward the top of the tree) down; the ends projecting to rest against frame built up to a suitable height to support them from tipping the boiler. Fill the boiler with gas tar, and build your fire under it. Boil till the wood is well saturated with the tar. Thus the post, so far as it goes into the ground, and some inches above, is covered when dry with a surface nearly as hard and impervious to water as glass. I have often seen tar recommended for this use, but have never seen any practicable plan given for applying it effectually. I have had it put on hot with a brush, but it seemed to me a very inefficient process. Any improvement will be gratefully received. When my trellis is completed I propose to have the whole covered with a good coat of tar. I have a grape arbor in process of construction three hundred and twenty feet long, ten feet high, and eleven feet wide, and a floor in it,

designed for an out-door gymnasium; hence will want it well covered with vines the year round. This arbor I intend to have thoroughly painted with tar also. Rather a dark picture, you may say, but not so bad methinks as to see the paint and soon the wood destroyed by the moisture under the vines.

Now, I have to ask information. Will some one *who has had experience* give a *good and economical* plan for fruit-house or cellar and ice-house combined? Is "Schooley's plan for summer fruit and ice-house" considered a success? Is it designed to keep fruit as well in winter? I want something of the kind built next summer, and would be grateful for the experience of others.

Will some of your readers who have had *experience* with "automatic gates," and who *know* whereof they write, tell us something about their practical utility? Our standard authority here in the West says, in reply to our inquiry on this point: "We have seen many different kinds of automatic gates, but none we have any confidence in." We have had some thoughts of trying E. Nicholson's, but would know more about it, and also if there is any better one in use.

Yours, &c.,

Mrs. F. A. W. SHIMER.

MESSRS. EDITORS.

DEAR SIRs—Every reader of the HORTICULTURIST would be interested if some way could be devised that would be within the reach of all, for preserving fruit in the natural state beyond the time of ripening. Then fruit-growers would not be obliged to sell when the market is over-stocked, and prices below the cost of raising, and consumers would have an extended season for our choicest fruits.

I am experimenting with houses for keeping fruit, something on the plan of the one in this city, but instead of walls filled in all around with 3½ feet of sawdust, I propose to build with spaces for confined air. Do you, or any reader of the HORTICULTURIST, know of a successful ice-house with

confined air spaces? If so, with what material is it built, how wide the space for confined air, and does it keep ice perfectly? There will be a fruit-house erected in this neighborhood the present season, with spaces for confined air, the success or failure of which I will promise to report to your readers.

E. NICHOLSON, Cleveland, Ohio.

ENGLISH BOOKS AND PERIODICALS.—

We are now prepared to furnish English books and periodicals, and import the same to order. In our advertising columns will be found a list of some of the publications which we at present have on sale.

BOOKS, CATALOGUES, &c., RECEIVED.

HANS BRINKER, or the Silver Skates, by Mrs. M. A. Dodge, daughter of the late Prof. James J. Mapes; published by James O'Kane, New York. An interesting story of life in Holland, combining history and instruction with pleasing details. Those unacquainted with Dutch manners and customs will find them carefully described, and the general reader will find agreeable entertainment in the pages of this neatly-published work....

PROTEAN CARDS, or Box of 100 Games; suitable for all ages. John H. Tingley, 152½ Fulton-street, New York. There is provided for, at the expense of One Dollar, we believe, a good deal more amusement than we have ever seen before at so small a cost. One need never lack entertainment as long as they possess a box of these cards....

CANARY BIRDS.—A useful and practical manual for those who keep these delightful songsters. Published by William Wood & Co., 61 Walker-street. Price, 50 cents. (See our Book List.)....

QUIMBY ON THE BEE.—A new edition, rewritten throughout, of this excellent practical work on bee culture. The author has had large experience, and his directions and statements can be relied upon. Published by Orange, Judd & Co., 41 Park Row, New York (See our Book List.)....

McElwain, Bros., Springfield, Mass., Seeds and Vegetable and Flower Garden Manual.... Edgar Sanders, Chicago, Illinois, Plants.... David D. Buchanan, Elizabeth, Fruit and Ornamental Trees, &c.... John Crane, Union, New Jersey, Strawberry Plants.... William H. Bailey, Plattsburgh, New York, Plattsburgh Nurseries.... D. Redmond, Augusta, Georgia, Georgia Nurseries.... John W. Bailey & Co., Plattsburgh, N.Y., Grape Vines.... Peter Henderson, Jersey City, N. Y., New Plants.... Henderson and Fleming, 67 Nassau-street, N. Y., Flower and Vegetable Seeds.... Hoopes, Brother and Thomas, West Chester, Penn., No. 1, Fruit Trees, &c.; No. 2, Ornamental Trees, Shrubbery, &c.... R. G. Hanford, Columbus, Ohio, Columbus Nursery.... F. K. Phoenix, Bloomington, Illinois, Wholesale Price List.... Parsons & Co., Flushing, L. I., Fruit and Ornamental Trees, &c.... J. Vick, Rochester, N.Y., Illustrated Catalogue and Floral Guide.... Hubbard and Davis, Wayne, Michigan, Fruit and Ornamental Trees, &c.... Ellwanger and Barry, Rochester, N. Y., No. 1, Ornamental Trees and Shrubs; No. 2, Fruit Trees; No. 4, Wholesale Trade List.... Washburn and Co., 100 Fremont-street, Boston, Amateur Cultivators' Guide to the Flower and Kitchen Garden.... Wm. Parry, Cinnaminson, New Jersey, Strawberries, Raspberries, Blackberries, &c., &c.... J. W. Manning, Reading, Mass., Reading Nursery.... Frost & Co., Rochester, New York, Nos. 1 and 2, Fruit and Ornamental Trees; No. 3, Select Greenhouse Plants; No. 4, Wholesale Price List; No. 6, Choice Flower Seeds.... Alfred Bridgman, 876 Broadway, N. Y., No. 2, Vegetable Seeds, &c.; No. 1, Flower Seeds.... Transactions of the Massachusetts Horticultural Society.... Capabilities and Resources of Grundy County, Illinois, set forth by the Grundy County Agricultural Society.... Forty-Seventh Annual Report of the Hampshire, Franklin and Hampden Agricultural Society, Northampton, Mass.... Third Annual Report of the Proceedings of the West Jersey Fruit Growers' Association.... B. K. Bliss, Springfield, Massachusetts, Spring Catalogue and Amateurs' Guide.... Hovey & Co., Boston, Mass., Illustrated Guide to the Flower and Vegetable Garden.... John A. Bruce and Co., Hamilton, Canada West, Seeds, &c.

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ABOUT THE GRAPE.

BY F. R. ELLIOTT.

I do not propose to write a treatise, or give *perfect* directions how to select soils—plant and prune vines, etc—but, as I have been studying grapes somewhat, and reading all remarks of grape growers that I could have access to, I propose in a desultory manner to make my comments.

In the October number of the HORTICULTURIST was published a letter of mine, on the selection of soils whereon to grow the grape; some questions having been put to me respecting what I meant in that letter by *calcareous limestone soils*; before I say anything more, that is considered blind, let me answer: that by that term I mean soils of limestone, originally possessed of such slight coherence, that they disintegrate easily when exposed to frost, &c., breaking the rock to a sort of calcareous sand. These differ very materially from what are usually termed limestone soils; the latter resting upon beds of solid limestone, and rarely having in their composition any carbonate of lime, and requiring the application of lime as a manure, as readily, if not quite as

much, as soils that were formed from sand, stones, &c. Capillary attraction may assist, and probably does, in supplying lime and other minerals to the roots of plants growing in soils resting on solid limestone. Calcareous limestone soils are not abundant in our States. So far as I know, Missouri possesses the largest quantity; and had I the grape fever, at such temperature as to make grape growing my own business, I would select my land in Missouri without delay; believing as I do, that all grape growers at the West must look to the wine made from the fruit, and not to sales of the fruit, for their profits. So much in explanation of what was before written. The classification of soils in which to grow the grape is by some regarded as all nonsense, and, judging from an article in the January number of the HORTICULTURIST, Mr. A. S. Fuller, author of a book on grape culture, evidently considers *any* soil suited to grape growing; and, so it is, “within one or two hundred miles of the Atlantic coast,” *location* is of small consequence. It may be

that Mr. Fuller is right, and in so far as the mere fact of growing grapes is concerned, there is no doubt of it—but, while hundreds or thousands of acres *may* be grown around New York, Philadelphia and other large cities, and sold for table use—the hundreds and thousands of acres *now* growing throughout our Western States, must find return of profits in manufacture of the fruit into wine. Coming, therefore, down to that point, we have records from the old country, where soil, in a distance of less than half a mile renders one vineyard so valuable as to be unpurchasable; while another can be bought at a very low rate. In Illinois, some years since, I visited two vineyards, distant from each other not one eighth of a mile, both cultivated and trained alike. One made a good wine, the other only a moderate, or rather poor quality. In my immediate section, or the south shore of Lake Erie, we have grapes growing in almost every variety of soil, and so well is the matter now understood by our best wine makers, that they make a decided variation in the prices paid for grapes. Vineyards of Catawba, growing on sandy or loamy soils, find sale at a very low price to the wine makers. Some refusing to use them at any price, while they pay from seven to ten cents for the same variety upon limestones and clays. Indeed, we have men who claim they can detect the soil in which the grape was grown by seeing the bunch.

The author of "Ten Acres Enough," in January number of *HORTICULTURIST*, says he "never knew the Isabella grape was fit to eat," until this last fall, when he ate from a vine fed from the burial ground of cats, dogs, mules, etc. E. W. Bull, the originator of Concord grape, while advising a light, warm or good corn soil, says, the flavor of the fruit will be injured by application of coarse, rank manures, and advises use of bone dust, ashes and gypsum.

C. M. Glidden, of Ironton, O., on clay soil, digs three and a half feet deep; puts in bones; adds fifteen or twenty inches of

stable manure, and waters the vines during summer, *daily*, with lime-water.

In a trip to one of the islands in Lake Erie, last summer, I saw vines, of different varieties, loaded with fruit; they had been manured with fish; and by-the-by it strikes me, were I living on the same shore, I should act on this item to a certain extent; especially, if showy fruit and rapid growth of vine was an object, as it often is to the propagator and exhibitor. In Missouri, Mr. Husmann, one of our most intelligent of grape men, says the Catawba is unworthy of culture, because of its rotting; while L. D. Morse, Esq., Secretary of the Missouri State Board of Agriculture, says he visited a vineyard on the line of the Pacific Railroad—soil post oak clay, with pellets of iron intermixed, resting on a stratum of gravel, and that on magnesian limestone; and here neither rot or mildew affects the grape. Mr. Husmann's ground is a strong clay, and mostly, I think, a side hill.

Apparently there is collision in these statements, but in reality none, as no test of the sugar, alcohol or acid, in the various locations and practices has been made, and the matter of advising manure or no manure rests on the *taste* of various men, whom, if met together, very likely would differ as much in the eating of the same grape, pronouncing on it as they do on soils for its cultivation. Many assert that the appearance of grapes grown on sandy or loamy soil is better than those grown on clay, and to those who look only to the surface of the fruit, it may be so; hence the adaptation of any soil to grow grapes.

Unfavorable seasons however, occur to all fruits, the grape neither more, nor perhaps less than others; but when an unfavorable season does occur, when the rot or mildew affects the fruit, so as to render it undesirable for table use; then comes the test of soils, in giving to the fruit such qualities as will render it valuable for making *pure* wine; for remember, we of the West ignore all so-called wines, in which sugar, sorghum, alcohol or other substances may have been

mingled. There is yet another point that in the grape culture has perhaps been too much overlooked. It is the adaptation of *varieties* to soils and climates, or localities. The American Pomological Society once undertook to recommend fruits for general cultivation; but they failed so signally, that their list has never received much attention. The observing fruit grower soon learns to distinguish what variety will and what will not answer for his soil and locality, and when some one or two apples, and as many of pears, seem to succeed everywhere, the majority will not do so.

The Concord grape seems apparently to do well nearly everywhere, but its quality is undoubtedly improved or reduced by soil and location; for while some have claimed to make from it a *pure* and good wine, others can only obtain a thin, red wine, about equal to claret.

The Delaware is, perhaps, on the other hand, a variety that chooses its soil and location, with as dainty a root as any hardy sort. Simple undulations, in a field, with their natural variations of surface soil, often changing it from a vigorous, healthy vine, producing delicious, good-sized fruit, to that of a puny weakling with small, sweet, but insipid fruit.

Mr. Fuller, in the article I have before quoted, names a list of grapes to grow for "profit." They are "Delaware, Iona, Israella, Concord, Creveling, Hartford, and Rogers No. 3, 4, 15 and 19."

Such a recommendation of a list ought to make them succeed everywhere; but, unfortunately, with the Delaware, as I have just written, a distance of only say twenty feet, with a slight change in surface soil, the sub soil being alike, has made distinct qualities of the grape, and a distinct habit of growth. The Iona is as yet new, having only been sent out about two years, and its growers have petted it, as all do new and expensive plants. So far, we may say, the vines grow sufficiently strong to promise well, but its chances of freedom from rot, etc., are yet unknown, nor can they be

fully known under ten years. The Isabella, like the Iona, is also new, and the same may be said of it. The promise of these however is so good, that where a man has grown them with only ordinary care and found success, he may venture to plant more, but it would not do to advise planting acres of them where they have not been tested in growing of the vine. Concord, I have remarked on above. The Creveling, although before the people some twenty or thirty years, seems much like the Rome Beauty apple. To some it proves good, to others it is quite unprofitable, and therefore, although yearly talked of, few plant it. Hartford again proves so variable in localities, soils and seasons, that it seems to me it can hardly be commended for general planting. Soil and situation alone does not always affect this sort, season having very much to do with it. In my knowledge, about one hundred vines, one year, set and ripened their fruit, but dropped it from the stem badly. Another year, the same vines ripened and held their fruit middling well. The Rogers varieties are comparatively new. Like some of the cherries I described years since, they have served to meet rebuffs everywhere, except from those who had the vines to sell, and while they have been long enough before the public to have been fruited all over the States, I doubt whether more than five per cent. of any pomological meeting could say knowingly much about them.

With Charles Downing, both the fruit and leaves of Nos. 1, 3 and 9 mildewed badly this last season. Nos. 4 and 19 would probably command in fruit as much or more price in market than Concord or Isabella. While 3 and 15 give great promise, not only for table use, but for wine also. These two last are deserving extensive trial, and I hope it may be so extended with all the sorts, as to enable us in a few years to decide upon their adaptation to soils and localities. Sweeping recommendations of lists of fruits for general cultivation will not do—for while no hardy grape as yet known, equals a truly

well ripened Catawba, grown on calcareous clay or limestone soil, the variety is only adapted to particular localities. It is of no value in Massachusetts or Northern Central Michigan, etc., and the pomologists of these sections would laugh at the man who commended it for general cultivation. The selection of varieties, as well as the soils and locations where growing grapes as a business is intended, becomes a matter of considerable study, and requires thought. If for a market, and to be used at table, a very different sort possibly would be selected than where light, dry wine was intended to be made of the fruit. Distance of transportation would also be another item, dark colors and thick skins showing better, after being thrown hither and yonder by express companies, than light colors and their thin skins. Again, were red wines sought as the result, and wine only the object, a still different grape would be selected, and yet all would have to be ganged on their adap-

tation to the soil and section of country where designed to be grown.

The American Pomological Society are doing a good work in their preparation of a catalogue; but I should much like to see a collection made from letters of notes on fruits, from various horticulturists throughout the Union. At meetings few men say anything, and often those who could say, or write, the most valuable information as regards facts in culture, are left out altogether. But I am making my talk too long, and therefore will close by the quotations from Mr. Fuller's article: "Aiken grape, of which so much has been said at the West, is Isabella." "Haskell, from Michigan, is Concord." So Mr. Fuller thinks. I have carefully examined them for several years, and I think they are entirely distinct. Americans had better try them and decide; but be careful of whom you receive plants.

DESIGN FOR A COUNTRY HOUSE.

BY REV. P. D. OAKLEY, JAMAICA, L. I.

THE plan of this house explains itself. It is in every way compact and convenient. It would be difficult to find any loss of space. The verandah, with its broken lines and clustered columns, gives a pretty effect to the approach of the house. By the main entrance all the rooms are easily reached, and the doors of the parlor and sitting room are so arranged that, in case of large company, there can be free circulation from one to the other. All the rooms are brought close together, and though within a few steps of one another, by short passage-ways and doors, the smell of the kitchen and noise of one room is effectually excluded from the others. Every room, excepting the parlor, has a closet. The door of the sitting room, opening directly opposite the hall-door, which opens under cover of the piazza, gives, in the summer

season, both air and a pleasant garden view. The tea room may be used as its name designates. For this purpose it has an ample closet, and but a step from the kitchen, though entirely shut off from it. But the sitting room is quite as convenient, and but few families of moderate means care or expect but that their dining and sitting-room shall be one. In this case, this house might be made a very snug village parsonage, and this room, as it is separate from other rooms, is of easy access by the main hall, or by the main path from the street, with its windows opening under, and ready access to the side piazza, be made a very neat library or study. The kitchen is a clear, square room, with no encroaching projections, but with a large wall pantry. Everything here is handy and convenient. The cistern pump is in one of the recessed

corners of the chimney, just where it ought to be, out of the way, and close by the range, where a pot of hot water is always expected, and where there is also a sink to carry off all the waste water. One door leads from the kitchen to the back stairs, another under these stairs into the cellar. By having this cellar door near the outside kitchen door, there is no tramping across the kitchen floor necessary to get to it, and the necessity of having outside cellar doors is obviated. The outside kitchen door opens under cover of a shed, which shed is in keeping with houses of this

style, and greatly adds to the convenience of the culinary department. In this shed a stove can be used in the warm weather, by having a stove-pipe hole made from the outside into the kitchen chimney. When the main chimneys are being built flues from the cellar should be constructed with them, so that, if at any time desired, a furnace may be used. The cellar floor should be cemented.

This plan may be somewhat cheapened, and yet its convenience and general effect not materially altered. Making the parlor 14x20, instead of 22, and dispensing with



FIG. 55.—*Perspective.*

the hall between the tea and sitting-rooms, these rooms would be brought in immediate connection by a door opening between them, and then, if the family are so disposed, this would make a fine sleeping room, easily warmed in winter from the sitting-room. In this case, the door of the sitting-room, now opening into the rear-hall, would open directly on the piazza; and the door from the main hall will open into the sitting-room.

We think that the second floor affords as much sleeping room and as convenient arrangement as is necessary to meet the re-

quirements of any ordinary family who wish to combine economy, taste and convenience. There are five sleeping rooms and a room for domestics in the story over the kitchen. An ample kitchen garret, very easy of access from the kitchen, makes an excellent stow-away room. A door between the kitchen garret and the main building gives the servant girl access to all of the upper floor, and at the same time, by a bolt or lock, entirely shuts off the kitchen from all other parts of the house. The chimneys are so disposed that either of the four principal sleeping rooms can

have a stove. Where rooms are used exclusively for sleeping rooms, size is not of so much importance, if ventilation is properly attended to. This is accomplished in these rooms by having stove-pipe holes near the ceiling, and pivot sashes over the doors. Thus, each room is well ventilated, without the occupant of the bed being exposed to the draught. The little hall room may have a door communicating with either of the other front rooms, and be used for childrens' sleeping room or lady's boudoir.

Its window gives egress to the pleasant balcony over the veranda. The closets in the front rooms conform to the style of the building, and have a pretty effect by making recessed windows, under which cushioned seats may be formed, gratifying a principle both of taste and utility. These shaped closets will be in special keeping if the room is not a full story, but yields to a small curvature in the ceiling.

The style of this house is of the Rural Gothic order. It has a gable in front, under



FIG. 56.—Cellar.



FIG. 57.—First floor.



FIG. 58.—Second floor.

which is a Gothic window leading to the veranda balcony. It is weather-boarded, with sharp pitch, projecting roof, with cut shingles, and pendant barge boards in all the gables. The chimnies ascend from the ridges, and are topped with Scotch Garnkirk shafts, much preferable, the writer thinks, to our common cotta terra in exposure to the keen frosts of our northern winters.

This house, it is thought, combines simplicity in its purpose and construction—

unity in its design, compactness and convenience in its arrangements, and symmetry in its proportions. Its foundation should stand about 2 feet 6 in. out of the ground when properly filled up all around. The posts of the main building should be 18 feet long, and of the rear 14 feet, and when correspondingly interiorly finished, it will make a chaste, comfortable home, gratifying to the taste, and in its first cost but very moderately burdensome to the pocket.

PLAN FOR IMPROVEMENT OF GROUNDS.

BY E. A. BAUMANN, RAHWAY, N. J.

WITH this, I take the pleasure of sending you a reduced design for the laying out of a small place, drawn for a gentleman in Bristol, R. I.

The plan includes about four acres, and lies at the juncton of two streets, a short distance outside of Bristol, with a very fine

water front on the Narraganset Bay, in the southern direction.

The north-eastern and north-western boundaries subdivide the place from some small lots, with poor-looking houses on them, and therefore the whole arrangement had to be made in consequence.

The house had to be located at such a distance from the streets, as to allow space enough for ornamental purposes.— This space was arranged in a manner to produce the appearance as if the whole plan was a pleasure ground, the planting hiding the vegetable garden and all the buildings in the rear, from one corner on the west up to the most eastern extremity when there is only the width of the barn-yard left open.

The barn, stable, hen-house, green-house, as well as the vegetable garden, are all of easy access from the house, and, besides, they are in such communication with each other, that all the operations can be done without encroaching on the pleasure-ground.

The traders, viz., butcher, baker, &c., have an entrance through the barn-yard leading to a small turn near the kitchen, and will come hardly in contact with any

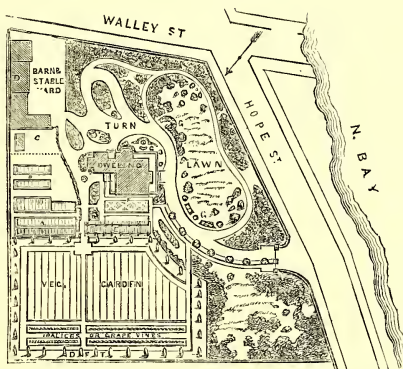


FIG. 59.—Plan for Improvement of Grounds.

carriage, for which there is a particular turn, more spacious, in direct connection with the barnyard.

To hide the vegetable garden from the windows of the south-west side of the house, there is an open grape arbor (an Italian pergola), with a fine display of climbers, and between this and the house, a regular small flower garden, for Dutch bulbs, and bedding plants.

Trees of large size have been employed in great variety all along the streets, but irregularly planted, and if kept as recommended, *i. e.*, with bare stems, they will shade the whole walk surrounding the front lawn, without obstructing the water view.

A row of tall deciduous trees follows the main entrance drive on one side, and some more trees of the same class are scattered single on the lawn, and on the patches sur-

rounding the turns, casting some shade around the house.

Shrubby of some ten to twelve feet elevation has been employed on the western corner and along the enclosure of the barnyard, with low, flowering shrubs in great variety in their front, showing a continuous mass of foliage from the top down to the grass.

In connection with the tall trees planted from the main entrance to the barn-yard, only a single specimen of rarer variety, and some very low shrubbery, has been employed, bringing thus the show plants in prominence, and producing with the small shrubs a greater contrast.

The drives and walks are made exactly at the level of the lawn, the small size of the place admitting of an arrangement which in a larger one would not answer as well.

The vegetable garden is quite small; but in a suburban garden, as this plan really is, it answers completely for the smaller sorts of vegetables and fine herbs required every moment for the table; and near a city, such vegetables used for winter, or which may be kept in a cellar for a week or more, may always be procured in the market cheaper than they can be grown on such a place.

A border of dwarf fruit trees surrounds the vegetable garden. This border is of about 15 feet width, allowing in the rear a row of blackberries, raspberries; and among the trees, currants, gooseberries, and even strawberries.

Of border or edging on the walks in the vegetable garden, there is none. I suggest-

ed the walks to be raised above the ground, keeping them dry by carrying the rain water on the worked land, where it is more wanted than on the walks.

I have since seen gardens in which the walks were altogether left in lawn or sodded. I had always an aversion to borders of sods; but I confess that the practicability of sodded walks in a vegetable garden is a very good system, and I shall recommend it in the future.

On the south side there are two borders, with trellis work, intended for grape vines; these will answer very well in spring for early kinds of small vegetables.

I have no doubt that this design will be of some use in situations corresponding with the location of this place.

DESIGN FOR A GRAPE ARBOR.

BY E. A. BAUMANN.

THE accompanying design for a grape arbor, in the style of an Italian pergola, I have already introduced in several places with success.

This arbor is more an ornament to a place than are arbors generally, which are intended more to hide nuisances, but which show them in the best way to everybody that comes near a house.

By the design, you will observe that the arbor is open on the front side, with a balustrade or panel work, of $3\frac{1}{2}$ or 4 feet high from the ground..

The rear is covered with laths, 12 to 15 inches apart, for the purpose of training grape vines intended to run on the top, along the cross-pieces.

This arbor could be built of almost any kind of timber, and painted any shade, but a wood color, imitating oak or chestnut, would be the most suitable.

The upright lattice-work, running along the posts, is intended to give the posts a heavier appearance, and to tie up flowering climbers that will have to be trained

length-wise along the upper piece of timber.

The horizontal pieces run across the posts, tying them together and supporting the laths, $2\frac{1}{2}$ by $3\frac{1}{2}$ inches, which are lying crosswise over them, and project some 15 to 18 inches out.

Vines dropping from the top will soon make the whole more heavy.

When I employed or introduced this style of arbor, it was either to shut out some objects outside the place, on parts of a small lot, where a group or a belt of shrubbery would not have found room enough, or to establish an ornamental terminus in the pleasure ground, and a separation between this and the vegetable garden.

With a well-selected collection of climbers, this arbor would soon be a very handsome feature in a place. Tall-growing varieties of climbers, like Wistarias, Clematis, Running Roses, &c., may be trained on the posts; and dwarfer sorts, like Honeysuckles, Akebia, Bignonias, Jasminums, the annual

varieties of Ipomaeas, Tropaeolums, &c., the boundary line of a place, the rear on the north side would not answer well for

In case this arbor should be placed on grape vines ; but in that case, I should sug-

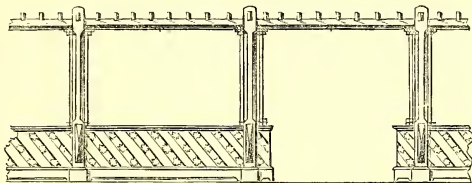


FIG. 60.—*Side View of Arbor.*

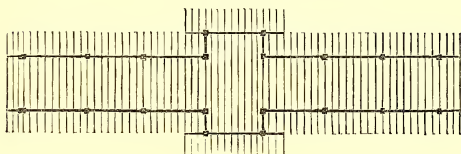


FIG. 61.—*Top of Arbor.*

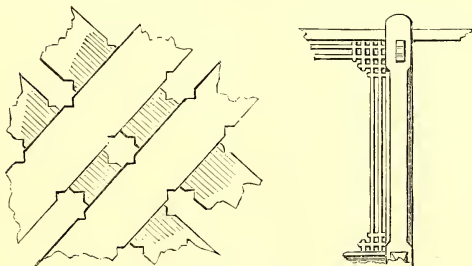


FIG. 62.—*Details of Arbor.*

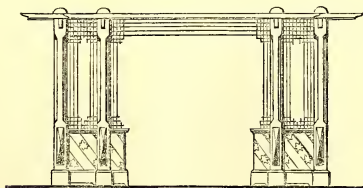


FIG. 63.—*Cross Section.*

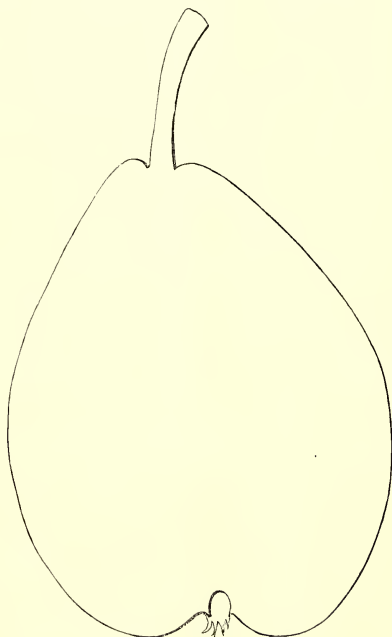
gest to cover the rear entirely with the Virginia creeper, Aristolochia Siphon, or some other fast-growing climber succeeding well in the shade.

RAHWAY, Feb. 24, 1866.

PEARS—GENERAL TOTLEBEN AND EMILE D'HEYST.

BY CHARLES DOWNING, NEWBURGH, N.Y.

EMILE D'HEYST, a Belgian fruit; tree of moderate vigor. A healthy and good grower, but straggling, and not easily brought to a pyramidal form. It seems well suited to this climate. Young wood, fawn or light brown; rather slender. Fruit large, or above medium size · long calabasse form. Color light green, washed and waved with fawn and russet; becomes bright yellow at the time of maturity. Stem variable, but

FIG. 64.—*Emile d'Heyst.*

rather long; sometimes fleshy; inserted in an uneven cavity. Calyx small, set in a deep narrow basin, surrounded by uneven protuberances. Flesh buttery, melting, very juicy; exceedingly fine, sugary, and well-perfumed (L. E. Berckman's MSS.) A very great bearer, and requires thinning to have the fruit in perfection. From all we can learn, this fine pear has given general satisfaction in this country.

TREE vigorous, healthy, and productive ; and patched with russet, and thickly sprinkled with russet and brown dots. Stalk a new promising variety, of foreign origin. Fruit large, turbinate, pyriform, angular. long, curved, inclined ; inserted in a small Skin greenish yellow, considerably netted cavity, sometimes by a lip. Calyx small,

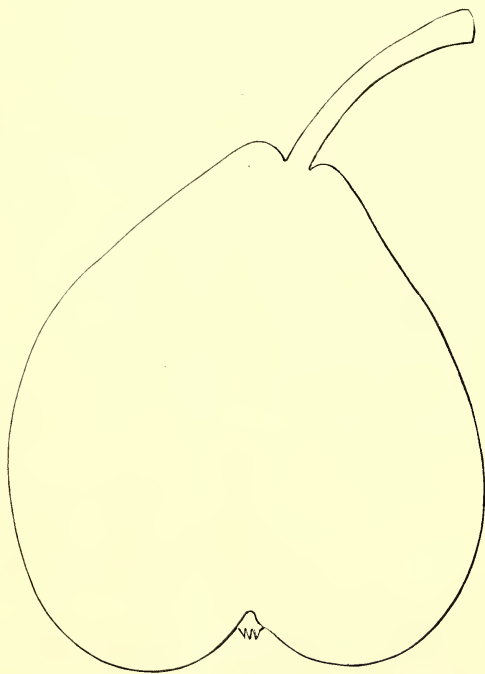


FIG. 65.—*General Tottleben.*

open. Segments short, erect. Basin large, slightly aromatic flavor. Ripe last of October and November. A fine new promising fruit. Flesh whitish (often flesh-colored around the core), a little coarse, very juicy, melting, with a rich vinous,

THE PROPAGATION OF THE DELAWARE AND OTHER HARDWOODED KINDS OF THE GRAPE MADE EASY.

BY HORTICOLA.

SOME of the readers of the *HORTICULTURIST* (see vol. xix, 1864; p. 61) may remember that I made vines grow which, during their passage from Germany to this country, had commenced pushing in the box in the absence of light. I left the asparagus-like shoots on the pieces of the old wood, which I planted, and succeeded in making grow. Mr. Peter B. Mead, the then editor of the *HORTICULTURIST*, made the remark that I unconsciously had been making good plants. This hint was not lost upon me, for it induced me to make a number of experiments, especially last year, the results of which so far surpassed my expectation that I deem it my duty to make them known through this magazine. In describing them, I will dwell exclusively on the main points, omitting the gradual development and perfection, so far as it goes, of my plan.

On the 27th of May, last year, when the young shoots of the Delaware were from two to four inches long, I cut pieces from the ends of the last year's canes about two inches long, having a young shoot of the length indicated in the middle, or rather so, that each of the young shoots had from one-fourth to one-half inch *below*, and about one-half inch *above* them of old wood. I laid the old wood horizontally in my propagating bed of anthracite coal dust, so that the young shoots were erect at right-angles with the old wood, which was covered with coal dust a little more than one-half inch deep. I shaded them a little, and watched them regularly. I did not make any fire, relying on the heat of the sun, which is rapidly absorbed by the coal dust, and which warms it thoroughly to the depth of at least four inches. *Seventy-five* cuttings of the Delaware, made in this way, gave me *seventy-three* beautiful plants. They had such masses of roots as I never saw on

plants propagated in any other way. It was astonishing to see how the young green shoots continued growing, just as if they had not been separated from the mother plants. Those propagators who use sand will succeed equally well with it.

I could give a whole catalogue of vines, cuttings of which, treated in the same way, gave similar results. It is not necessary to state here that soft-wooded kinds grow with still more certainty, *i. e.*, the Rebecca. Propagators are, in this way, enabled to make two sets of cuttings; all they have to do is, not to prune the canes of their vines so short as usual, in order to have wood and shoots enough by the middle of May. That vines do not bleed at that time when wounded is, at present, known even to the inexperienced.

In this connection I will give some account of other experiments, with results quite different from those related. Had I not been reminded by one of the readers of the *HORTICULTURIST* that I had promised to report, I would, perhaps, never have done it. The circumstances had so entirely escaped my memory, that I had to make a little effort to recall them to my mind. I forgot them on account of the failure.

Several years ago, I planted in the Fall a large number of cuttings from the Delaware, the Diana, and other kinds, in the open ground, covering them at the approach of winter sufficiently to protect them.—From what I had read about this method I felt so sure of the result hoped for, that I did not hesitate to treat so, a most remarkable variety of the wild grape, which I had found on Snake Hill, in this vicinity. Its leaves were the most elegant and ornamental of any vine that I ever saw. They were full lobed, but so deeply and gracefully cut, that they resembled the five fin-

gers of a human hand. In the spring following all my cuttings began to grow, but the young shoots soon drooped, and the cuttings died. When I saw the danger, I took up three that were still green, and planted them in a hot bed, but to no purpose. I did not save a single cutting of the wild grape; of the others, some made roots, but as there were so few of them, I became disgusted, and did not take care of them. I think I was very careful in planting and protecting the cuttings; still, I may have neglected some thing, though I am not conscious of it. At all events, my experience was such as not to warrant the repetition of the experiment, and I cannot conscientiously advise anybody to risk any valuable kind in trying it. *

Cuttings of the Delaware put in water, and placed in a warm room, *i. e.*, a kitchen, for eight or ten days, and planted in the open ground when the weather grows warm, root uniformly, and make fine plants. From the first year I tried it till last season, my success has been the same. I do not remember having lost a single cutting in that way, provided I planted them in compact clayey soil; in porous soil they do not grow so well.

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* Unfortunately, the wild grape mentioned was destroyed. The attempt to take it up failed, the roots having fastened themselves in the fissures of the rock. So the stem of the vine was broken; all I saved was the cuttings, which I lost as stated. I visited Snake Hill twice every year since I obtained the cuttings, hoping that the stump might send forth shoots again; but I have to bear the disappointment—the vine is dead.

PLANTING STREET TREES.

Nothing is more obvious than that by the judicious planting of trees in the embellishment of country homes and country and village roads, the value of property is much enhanced, and comfort, elegance and health greatly promoted.

Buildings that are mean in appearance, homesteads dilapidated and storm-worn, are relieved, and their defects almost hidden to the passer-by, if surrounded by beautiful shade-trees. Roads and streets uninteresting and bare, hot and dusty in summer, dreary and cheerless in winter, can be converted into pleasant avenues and highways of enjoyment to the traveler and weary pedestrian, if bordered with desirable trees.

Then the tastes of the citizens will be more refined, and their thoughts and pursuits more congenial with the nature of their surroundings, and the language of future generations will bless the memory of those enlightened philanthropists who planted them.

The trees that we plant around our homes become deeply woven in our memories, and we realize the sweet satisfaction and pure enjoyment of seeing the trees we

have watched with care and hope growing thriftily, leaving lasting mementoes behind us that our lives have not been spent in vain. In planting trees we require skill and attention to the laws of vegetable life. Enthusiastic love of nature's gifts will not make a tree grow with success if wrongly set out, or treated with neglect.

Let us plant them nearly in the position they grew in before, their roots nicely spread out, and the earth packed around them so as to leave no space unfilled. And then, if the soil is not good friable loam or mould, we should procure such to place around their roots, and not fill up with rich or unfermented manure. Let us feed the roots gradually by spreading it on the top, and keeping the soil moist and mellow by mulching with refuse straw-stalks, or anything that will be of service to kill the grass and prevent the earth becoming hard and dry around them. We require only the most hardy trees to plant by the road, for the soil is generally of poorer quality, and they will be more exposed, than when planted on the lawn or about the house.

Shade-trees, combining a pleasing variety of colors and habits of growth, are the most

pleasing to the eye, for if an avenue should contain but one variety, and that the very best, they will be monotonous and dull. The winter landscape is greatly enlivened by the presence of evergreens, and they are beautiful everywhere, but unless extra care is taken few will plant them by the roadside, for who can tell how soon a vagrant-cow will, in frenzied mood, make a sightless, forlorn wreck of the finest evergreen?

But the Pines, if of large size, can be transplanted by the road, and the lower limbs trimmed off out of cattle's reach; but the best mode, we think, would be to make a fence around, and plant medium-sized trees, and in a few years cut off the lowest limbs. They grow well on poor soil, and will present a fine contrast if a few are intermingled with deciduous trees.

We are all aware of the reputation of the American Elm for street planting. They seldom make much shade until they are fifteen or twenty years old, and he that is in a hurry for shade around his place, and pines for the leafy canopy of trees near his dwelling, will have to wait too long for the Elm. They linger sadly if planted in light, poor soil, or if we allow their roots to be encased when young with a stiff mass of sward. Planted alternately with bushy trees, they give the finest effect. For light and rather dry soils we have found no better tree than the Sycamore Maple. It is a rapid grower, of fine form, and easy to live. The Norway Maple is often considered the most beautiful tree we possess. Covered with fine yellow blossoms in spring, and draped with light and graceful foliage in summer, when the frosts of Autumn chill its leaves, it yields slowly and unwillingly to its power, presenting a pleasing contrast of green, yellow, and brown shades mingled together. With us it is not as fast a grower as the Sycamore, but will better withstand hard usage, and thrive in a greater variety of soils. On good soil the white or silver-leaf Maple is the most rapid-growing desirable shade-tree. It is a native of Pennsylvania and other Middle States, and is so well known and extensively planted

that further notice is not necessary. Our White Ash and European Ash are well adapted to planting roads, and while they are easy to make live, and beautiful in form, their wood is of great value. The Linden tree has long been a favorite ornamental tree, from the fine conical form it assumes, and its ease of cultivation. We much prefer the Basswood, or American Linden, to the European. It is a more rapid grower, and its leaves, unlike the common European, retain their green color through the season. The white, or silver-leaf, is the finest species, but they are scarce and dear. The Tulip tree, in rather moist situations, or where the ground is kept mellow, as in the nurseries or woods, is the noblest forest tree of our country. They cannot be successfully transplanted when large, but their tall, straight trunks and bright, green leaves are objects of interest wherever we meet them. Sometimes the Liquid Amber, or Sweet Gum, could be planted with low growing trees, as they are of rapid growth, especially in wet situations. Their star-like leaves, when dyed with the rich, red tints of autumn, are among the gayest trees of the forest. No tree exceeds in grace and freshness the European Larch, in its new vernal dress. Although it looks rather dingy in Autumn, its spring and early summer foliage is so refreshing and lovely that we would plant some of this kind by roads and village streets, and protect them by stakes if small. In heavy soils the Deciduous Cypress succeeds finely, and is an ornament in the fall and early winter, when other trees are bare of foliage. In limestone countries and in clay soil, or where there are springy places, the Sugar Maple is one of the finest shade-trees we have. On dry and sandy soils other trees succeed better. We think that these will be sufficient for most persons, although there are other trees adapted to street planting, such as the Ash-leaf Maple, Black and Balsam Poplar, Black Walnut, Butternut, and, by the springs and water-courses, Weeping Willow. I. H.

NORTH HEMPSTEAD, L. I.

CORDON DWARF APPLE TREES.

BY E. FERRAND, DETROIT, MICHIGAN.

THERE is an innovation which deserves to be introduced in American gardening, that is, the dwarf apple trees cultivated for edging the walks of vegetable and fruit gardens. The idea of growing the apple tree in this shape originated some ten or twelve years ago in France, and is carried on there now on a large scale, very few gardens, and even the largest nurseries, being without their walks edged with those beau-

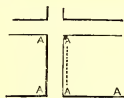


FIG. 66.—

tiful trees. Cultivated under this form, the apple tree can be introduced in a garden of the very smallest extent, where otherwise it could find no room.

Do not suspect that in putting forth this innovation I pretend to propose a substitute for the old standard apple tree. Very far from it. But I intend to present a novelty which is very interesting in many ways, and which will pay for the trouble it may give by the fruit alone, without taking into account its merit as a very beautiful ornament.



FIG. 67.—Tree pruned for planting.

FIG. 68.—Tree with its limbs tied to the wire.

The dwarf apple tree *en cordon*, as they call it in France, must be of necessity budded or grafted on Paradise, the Doucin being even a too strong grower; but here it must also be remarked, that the Paradise

should be on its own roots, and not, as some of my nursery friends have it here, a scion of Paradise grafted on some better growing stock.

The accompanying drawing will explain how to plant the trees, and will show the effect presented after two years from planting.

The first thing is to establish a strong stake at each end of an unbroken line, on the edge of a walk, as shown from A to A, Fig. 66, leaving these stakes about a foot above ground; then, from the top of one stake to that of the other, a wire is tightly fixed, which is destined to have the trees tied to it; the trees are planted on the line of the wire from 5 to 7 feet apart, according to

FIG. 69.—Apple Trees *en cordon* Three Years after planting.

quality of soil; two limbs of the tree are then tied to the wire, and all the other branches cut off, and those remaining shortened to eight or ten buds for the first year; or better yet, the tree is cut off to the height of the wire, and, as it grows, the two upper branches are tied to the wire.

In order to tighten the wire (none but sound galvanized wire should be used) when it becomes loose by the action of the sun or otherwise, a small instrument is used, which is also employed in the vineyards, and will be described in another article.

The only care these trees require is to have the wood pinched very often in summer, say every two weeks, excepting the two branches destined to follow the wire, which are left to grow at will, but tied to the wire as they need it. The

pinching causes the buds to swell, and determines the production of fruit buds, so that the second year the tree is pretty well filled with fruit. When the trees reach one another by their extremities they are grafted together, so that from one end of the wire to the other the trees are but one.—These trees are then allowed to produce no more wood, and need only to be severely pinched in.

The apple trees thus cultivated make a neat and very ornamental garland of fruit and foliage around each square of the gar-

den. I had once under my personal care about seven thousand feet long of those cordon apple trees in my father's nursery, and we never missed a heavy crop. I am experimenting the same here in my own garden with trees that I received from France for that purpose.

More could be said about these beautiful trees, but I do not want to abuse the kindness of the editors, and have merely pointed to the principle. I will add—no trees older than two years from the bud should be used for this purpose.

GRAPE CUTTINGS FROM MODERN HISTORY.

BY JOHN S. REID.

IN our former articles we endeavored to confine ourselves to the culture of the Vine and manufacture of Wine as known and practised by the Ancients; now we intend to speak more fully of the various kinds of grapes known to the Moderns, passing over that part of the history of the grape which may be found in the "Ana" of the Middle Ages, as we were unable to find any sufficient data to speak from during that period, although we learn that some of the provinces of Rome, now embraced in the Departments of the French Empire, cultivated the vine during the first century, especially the middle departments, when Domitian was Emperor, at which time the celebrated Edict was issued, destroying the vineyards in the provinces, and prohibiting any new vineyards being planted in Italy. This prohibition continued for almost two centuries, when it was revoked by Probus, and new vineyards were planted with the choicest vines from Greece, Sicily and Rome, in the Gaulish Provinces of Languedoc, Provence, and Gurinne.

Although the cultivation of the vine in France dates back to the palmy days of the Roman Empire, the climate of Europe was not such as it now is, but was much colder, and seldom matured the fruit of the grape

north of Cevennes, so that great armies, during the winter, passed over the Rhine on the ice, which could not be done during the last five hundred years. Pliny, Strabo, Columella and Durminas make frequent mention of the vineyards of Narbonnese Gaul, the latter of whom alludes to the mode of cultivating the vine by the Aquitani, on the banks of the Saone, supposed to be the modern *Cote d'Or*.

The wine of this time was also much relished at Rome, and those of Dauphine, Marseilles and Narbonne were esteemed the best; but the most celebrated were obtained from the Muscat of Languedoc, and a rich and violet scented grape of Vienne.

During the 13th century, the wines of France had become famous over all the civilized world, and a very amusing fable, called the Battle of the Vines, was then published, in which the different vintages or classes of wines were made to pass in review before the French monarch, each, contending for the palm of honor.

But the choicest wines were the product of the vineyards owned and cultivated by the Church of Rome; for as the clergy were, during this period, almost the sole depositaries of learning, so they were among the first to improve the cultivation of the

vine, and to attend in person the manufacture of the wine. Kings and Nobles then vied with the Church in producing this glorious beverage, whose motto was quality, not quantity, and the monks of the Cistercian Abbey, then the owners of the celebrated vineyard, Clos-Vougiot, containing about 80 acres, were satisfied with twenty hogsheads, which now, under different hands and management, produces not less than fifty.

For many years the rival wines of Burgundy and Champagne contended for the Bacchic crown; but not until the coronation of Louis XIII, in the year 1610, did the latter acquire the pre-eminence, since which no rival has been able to displace the wines of Champagne, which were decided, in 1778, by the Faculty of Medicine in Paris, as being the choicest vintage in France.

If any of our young readers would place before him the map of France, and search out the several departments and provinces referred to in this paper, he would find himself much benefitted by the operation, and have a clearer idea of their locality and relative situation to the great wine region of Europe.

The culture of the vine embraces generally the region of Olives. In France, from near the mouth of the Loire, a line of limits extends in the direction of the Rhine, passing a little north of Paris, and terminating near Dresden. It then returns along the frontier of Bohemia, to its point of crossing the Rhine at Coblenz, covering the valley of this river and the Lake of Constance, in Switzerland, traversing the Alps in the middle of the Canton of Valais, following the declivities southward to Venice, to return through Lower Austria, Hungary and Wallachia, eastward to the Crimea. These limits show a large extent of country on which the vine is capable of cultivation and of maturing its fruit.

Another writer commences his point at lat. $47^{\circ} 30'$ on the Atlantic coast of France, running to lat. 49° in the interior and thence

to Coblenz, lat. $50^{\circ} 20'$ on the Rhine for the East. In Germany, it does not extend beyond lat. 51° , and its true limits are much under these figures. Bordeaux, Dijon and Manheim would fairly represent France, or the extent of the limits of the wine grape in that country.

Champagne, within the Department of Marne, is entitled to the honor of giving its name to the most celebrated wine in Europe, and the vineyards of Verzenay, Maily, Raumont and Sillery situated north-east of Paris, at the north-eastern termination of the chain of hills separating Marne from Vesle, take the first rank.

The average annual value of the wine crop of this department is about ten millions of dollars, the product in gallons being about forty-four millions—one-fourth of which comprises the Champagne quality; the rest are red and white wines of superior quality.

This wine is made from a white grape, peculiar to that province and its soil, and although imitated by others, never surpassed by any.

As France takes the first rank among the political powers of Europe, so, in like manner, it exceeds them all in the cultivation of the grape; and indeed it would be somewhat curious to trace the seeming connection between the great Empires of the world and the vine—not that we believe that there is any necessity in their connection, but the singularity of the alliance has more than once occurred to our mind. Apart from the great commercial, mechanical and agricultural Empire of Great Britain, France has no equal in Europe, and in the cultivation of the vine, and the manufacture of its glorious juice, she is far ahead of every other nation, either of ancient or modern times; but it is not alone to her position as a great maritime and warlike power that she has acquired pre-eminence in this; in our opinion, it is to her climate and especially to her soil and institutions, that she is indebted for the high station she holds in this respect.

Bounded by the Mediterranean Sea and the Pyrenees Mountains on the south, in lat. 43° north, with the great Atlantic on the west, to which her rivers chiefly flow, and her mountain ranges tend—she is highly fitted for the cultivation of the grape vine, lying some 5° within the region generally awarded to the olive, the vine and the orange.

But even within sunny France, the vine is a capricious mistress, preferring certain provinces, and sometimes certain districts within one province, following the course of her mighty rivers, and flourishing only along the sides of her sunny hills. Thus, the mountains of Auvergne, separating the basins of the Loire and Garonne, are evidently the remains of extinct volcanoes; whilst east and south of this volcanic mass extend the Cevennes for about 200 miles, the northern portion of which runs north and south with the Rhine on the east; whilst the Jura mountains, composed chiefly of limestone, form a barrier between France and Switzerland.

Now, not only are the best wines and richest grapes produced within and along these mountain ranges and shallow valleys, but it is almost impossible for the vintner to grow them in quantity anywhere else. Thus, the wines of Champagne, north and west of Paris, in lat. 49° , take the first rank; yet the same vine refuses to bear in Central France, several degrees farther south.

Again, some small vineyards are found enclosed with stone walls—on the very limit of the grape culture—like oasis in the desert, so well marked and defined, that their area commands fabulous prices. Thus, the Clos-Vougiot, which contains about 80 acres, produces wine of such excellent quality, that its revenue was sufficient for the expenses of a noble, and the Romanée Conti is produced on a piece of ground not exceeding seven acres; whilst Chambertin, near Dijon, is the product of only 65 acres.

We make these remarks to counteract

the off-hand opinions of a great many grape culturists that the grape vine of America, being indigenous to America, will grow and produce, over as wide an area of country as the apple or the pear; and even Mr. Fuller, in the last January number, promulgates this idea. But we do not believe in it; the *Vitis Vinifera* of Europe requires a peculiar climate and a peculiar soil, and where the best wines are produced, the soils are, for the most part, light black or red loam, mixed with the *debris* of calcareous rock; and so in our own country, whilst the limits of the culture of the grape extend from the borders of the Rio Grande at El Paso, to the great Lakes of the north; still, there are some places within this vast compass where it will not flourish, whilst there are others where it delights to fruit and multiply.

But let us examine some of the French statistics for wine, and compare notes with the several Departments of that Empire.

The French wine crop of 1845, 20 years ago, stood thus in some of the Provinces:

	43	mill.	Gallons.
Champagne	43	mill.	Gallons.
Burgundy.....	62½	"	"
Lorraine	49	"	"
Languedoc	144	"	"
Provence	68	"	"
Guienne & Gascony	182½	"	"
Samtonge	63	"	"
Orleanois	37	"	"
Isle of France	37	"	"

These are the leading Departments. The total crop from all was about one thousand millions of dollars.

Now, if we refer to the rank which each generally takes in the wine market of Europe, we shall find them to stand thus:—Champagne, first in quality and highest in price; Burgundy, long the rival of Champagne, is only second, and in some instances is preferred—such as the Romanée Conti, frequently bringing fabulous prices. The celebrated vineyards on the Rhine, such as the Hermitage, Côt Kôtre, Condrien, and St. Colombe, are so well known that their

product is found in every wine market of the world.

A French gentleman once had in his cellar some of the wine of this department, over 200 years old, made from the red Muscadine, which grape is highly esteemed for wine, on account of its strength and aroma.

In Gascony and Guienne, the most celebrated wines are the Medoc, Graves and Paulus, such being the product of different vineyards and districts. Thus, the Paulus vineyards are situated on the banks of the Garonne, near Chartons; the Medoc is from the vineyard of Latour, although the lightest and choicest is from the Lafitte vineyard, and the Graves wine is the product of the grape on the gravelly soil on the banks of the Garonne. These are regarded as the most perfect wines in France, and the highest price is paid for the red.

But, as a general rule, the wines of Southern France do not hold equal in quality to those of the Northern Departments, although in quantity the product is nearly double; and in a commercial point of view, as an agricultural value to France, the wine crop is only exceeded by the wheat.

The best of the Champagne wine is said to be made from a small green or whitish-yellow grape, although in that department both white and red grapes are cultivated, and white and red wines made of the most excellent quality.

In Burgundy, the true Burgundy grape of our graperies is that which produces the best wine in that Province. The berries are roundish, oval, average size, and deep black; juice, rich and sweet. The Black Frontignan is also much used in the South of France, and used in producing the Muscadine wine. Berries medium, round, and black.

The Royal Muscadine, or White Chasselas, is considered the second best white grape of France, and goes by a hundred names. The bunches are large and shouldered, berries large, of a greenish-white,

turning to amber color in the sun; flesh rich and delicious.

The Virdelho, or Madeira wine grape is also cultivated in France, the bunches and berries of which are small, rich and excellent, semi-transparent; color, yellowish green.

The White Muscat and the White Frontignan are also cultivated in the South of France extensively; so are the Red or Grizzly, Frontignan, and Red Chasselas; but the White Shiraz, of Persian nativity, is the grape from which the celebrated white Hermitage wine is made, and is said to be the finest white grape in France, superior to the Royal Muscadine; whilst the red Shiraz is the grape from which the red Hermitage is produced, ranking side by side with the white. These are said to be small grapes, almost without seeds, and very delicate.

So much for a bird's-eye view of the wine and the grapes of La Belle France.

HOME CUTTINGS.

A happy New Year to you all, editors, contributors, and readers, and if in the past one single day has been spent in vain, let us in the present improve our industry, so that we will not only secure properly each fleeting moment, but redeem that which has been lost.

The stormy wind of January is howling around me as I am now writing; the vineyard looks bare and cold, the earth is covered with the frost of winter, and all is desolate and lone; but a few months, and Spring, with her mantle of green, will be clothing the orchard and the vineyard; the young buds will become alive again, and break forth into joy and rejoicing at the voice of Spring; and the air will become fragrant with the perfume of the vine-blossom, a welcome harbinger of a glorious vintage.

So may it be; but for these two years past, my vineyard has produced nothing but blossoms. True, the fruit has always set well; but the mildew and rot came and

destroyed the prospect, leaving nothing but the brown leaf and the unripened wood.

Well, be it so. I have again laid my choice vines down, and trimmed all of my more hardy. I have prepared for a year of hope and promise, and shall not despair, even although there should be no herd in the stall, and the vine should not yield its fruit.

My vineyard (Catawba) is about fifteen years old, and is planted on a gently-sloping hill, inclining to the east and south. My other grape vines range from one to six

years old; and I have a few of almost every variety of acknowledged merit. I have two seedlings—one blueish-black, and the other white—of promising appearance; both stood last year's rot and mildew unharmed, but were protected by a brick wall. I have left *them* out uncovered this winter, in order to test their durability; and if they are hardy as they are good, I know that I have a white grape superior to Dr. Grant's Anna, and a black, in bunch and berry, superior to the Concord.

NOTES ON THE MARCH NUMBER.

DISCOURSE OF WINTER.—A readable article, pleasant, but as I deal mostly in the plain practical adaptation of methods relating to subjects in moral life, and not much in sentiment, I must pass without further remark to the

DESIGN FOR A COUNTRY HOUSE.—Every thing that can help to elevate and improve a taste for rural architecture, and the pleasing embellishment of the house buildings, has my most hearty assent.

The design here given has much in its favor—but the author must permit me to question the adoption of such style for a level lot of 65 by 200 feet on a village street. To me there is much in association, and although it is said "contrast makes harmony," I cannot harmonise pointed gables, etc., with flat and tame surroundings of scenery. In selecting the architectural features of a building, I think, the country surroundings should be carefully studied, and the architecture, as well as the grouping and style of trees to form its border and back ground sought for, and made to assimilate with the natural face of the immediate surrounding country.

I have never yet felt that a style of architecture, etc., suited to the bold, rocky, romantic character of the Hudson River Highlands, was equally adapted to a plain, level, sandy country.

With the interior arrangement of this plan I shall not quarrel, as it is well known hardly any two families have the same wants or actual uses of rooms. I will only say, that in designing some hundreds or more of houses, I have found nearly all to want a bed-room on the first or main floor, and that in small houses, in order to effect it, some one other room had to do double duty.

PEACH TREES IN POTS.—Apropos to the season—for unless we have peaches grow in pots, under glass, I fear me, we shall have none this year. As our country increases in wealth, more and more attention will naturally be given to the luxurious; and what among all the luxuries surpasses that of having the rich fruits of the earth in a ripe and perfect condition always at command?

The writer of this article has so plainly given the course to be pursued, that it would seem any one of ordinary sense could take it up with success. Orchard houses and winter garden conservatories—not green-houses,—I hope to see increase rapidly; because our country has wealth to support them, and because a daily association with plant and fruit tree, summer and winter, refines and improves the mind.

THE CURRANT WORM.—A good description—but will not syringing the plants destroy the worm? It is so said. I have

never had any trouble with the worm, although I have over a thousand bearing currant bushes.

ANTIRRHINUM, *Silver Belt*, NEW SEEDLING CARNATIONS, NEW PEAR—MARY, AND THE READING PEAR.—Here we have a list of native Americans of no mean pretensions, and deserving the attention of every amateur flower or fruit grower.

PLAN FOR IMPROVEMENT OF GROUNDS.—In the main features the designer has been very successful, and I have no doubt, the place as he left it, would hardly be recognized by one who knew it ere he put "his cannie hand" upon it. It is so much easier to criticise than to create, that I must beg pardon when taking the liberty of saying that the group made to screen the stable yard from view on the approach, does not appear as effectual. I should have made but one entrance to the approach from the stable, and thrown in my trees, etc., so that no direct view could be had of the stable from that road.

DIAGONAL TRAINING IN VINEYARD CULTURE.—We are fast growing to be a grape growing country, and at this time, when hundreds of thousands of vines are being planted, it is doubted by many, whether any present work or general writing on grape training, etc., is "*just the thing*." The diagonal training is an old practice, and in the renewal course of many of our Western vineyards is often adopted. Mr. Balch may, however, give us something new, and we therefore wait, ere further remark.

What we now want is a small, practical work, taking each distinct variety of grape, designating the soil best suited to it, and giving modes and their results of training and pruning—for while one practice and soil may suit Delaware, it is well known the same practice and soil does not equally well with Isabella, etc. He who prepares such a hand-book as, to me appears, now wanted by the people, has no light task to perform; for he must be well acquainted with all varieties of hardy grapes, and have been with them in varied soils, and observed many modes of pruning.

GARDENS AND PARKS OF GERMANY.—I have nothing to add, only that I read these descriptions with pleasure and instruction.

GREELY PRIZES.—A difficult task had that committee, and as they are all honorable men, and good judges of fruits, it is hoped they are satisfied with their own work. Of one thing they may rest assured the fruits recommended are reliable, and cannot fail to please the growers over a large portion of our country; but there are persons who may be permitted to doubt the infallibility of any list of fruits to plant in all the varied localities and soils of our States. I am one of those persons, and while I concede favor to any man who shall aid public good, I must think corrected list of fruits, made by old practical fruit growers, in various section of the country, are more to be valued by the tree planter of those sections, than any *premium* award like the Greely one.

REUBEN.

SHOULD PLANTS BE "CROCKED."

BY PETER HENDERSON.

I SEE I am taken to task for my opinion on this matter by my friend, Mr. Cowan. I am glad that he questions the propriety of my practice, as it gives me an opportunity to state another reason or two against what I believe to be a useless and absurd

waste of labor, in using the so-called "drainage" in pots, even in growing Mr. Cowan's Azaleas, Camellias, Heaths, Acacias, or Terrestrial Orchids. I have grown *all* of these (with the exception of the orchids) *without* "drainage," and have had

them in as fine condition as ever I had roses or soft-wooded plants by the same method; and how I grow these, many of the readers of the HORTICULTURIST can decide.

I am astonished that Mr. Cowan should cite terrestrial orchids as plants that could not be grown without the inevitable potshred. He surely remembers that, in his botanizing days, *Orchis Maculata*, *Listera*, *Liparis*, &c., &c., grew in *marshes* in the British Isles; and if he ever indulged in the science on this side of the Atlantic, found *Platanthera*, *Calopogon*, *Arethusa*, and many other *terrestrial* orchids only in the *swamps*. Then, in the name of common sense, why does he think it indispensable to grow his *Bletias*, *Calanthes*, *Cypripediums*, &c., without "drainage?" for it requires but little botanical analogy to know that they, too, have their habitat in the swamps of the tropics. I have no doubt whatever that Mr. C. grows all these varieties finely, as he does everything else that comes under his hands; but he must look to some other and better reason for his success than the few pieces of broken pots or charcoal that he has placed in the bottom of the pots.

I once knew an old gardener that, when he put in his cuttings of carnations or pinks, always put in a single grain of oats with each. The oats grew, and so usually did his cuttings; and great credit was given to the oats for their agency in producing the desired result. This practice is not quite so common as that of "pot-draining," but I do not believe it to be one whit more useless or absurd.

The great misapprehension is, I think, in *where* the soil is drained *from*. Mr. C. does not mean to say, surely, that *all* the superfluous moisture is carried off from the *bottom* of the pot. He can satisfy himself about this with a simple experiment. Let him take a plant, say in an 8-inch pot, that is in a condition requiring water; let him pour in, say a pint, or as much as it will take; let him observe what *proportion* of the water is absorbed by the soil, and what

proportion has drained through the bottom. I think he will find that but a very small portion, if any, will pass through the drain hole. Now, I contend—and this is the gist of the whole argument—the *drainage of the soil is through the porous sides of the pot*, and not through the bottom, as that portion is usually excluded from the air, in consequence of its resting on its bed of sand or ashes, or on the board of the bench. Did we grow our plants in glass or glazed pots, then drainage might assist, as the water would have only one point of escape; but we don't do this, and our porous earthen pots give many hundreds of drain holes in each.

Mr. Cowan anticipates for me a "whipping," for my radical views in matters horticultural, from the English journals. I truly believe that my veneration for the opinion or the practice of our English cousins is not so great as that of Mr. C.; for I believe that, in many practical working operations, they are far behind us, particularly in commercial gardening. Have we any nurseries, not only in England, but in Europe, worked as cheaply, profitably, and well as those of Rochester? Or any grape-tries that ever excelled (on such a large scale) those under the supervision of Mr. Ellis, of Hart's Corners? I think not; and yet, in the practice of both, you will find far more radical changes than that which I advocate in the culture of plants in pots.

Even the famed market gardeners of London might take a few profitable lessons from those in the neighborhood of New York.—For example, all their gardens are worked by the spade, a plough and harrow would be like sacrilege in a London market garden—I have no doubt Mr. Cowan would view it as such in his—yet I have worked nearly thirty acres in market gardens for upwards of eighteen years, and have long ago come to the conclusion that the plough and harrow are *far better* pulverizers of the soil than the spade; and if Mr. C. has any doubts on this subject, I extend him an invitation—not to see orchids, for I have none

of these—but to compare our vegetable crops with those in his gardens at Matteawan, which I have no doubt are religiously worked with the spade.

It is wonderful with what tenacity the human mind adheres to custom, no matter how obvious its absurdity is shown to be.

Chambers tells us that in the year 1720, in an isolated community in the south of Ireland, the only known manner of attach-

ing horses to the plough was by the tail; and that, when this barbarous practice was stopped by legislative enactment, a serious riot ensued.

I think it very likely that if Mr. Cowan had been an Irishman, and lived in 1720, he would have fought desperately for his "rights" in doing what he pleased with his "oun baste."

South Bergen, N. J.

NOTES ON GRAPE-CULTURE.

BY H. L. YOUNG.

HAVING taken considerable interest in the cultivation of the vine, and having for a few years past occupied myself in the care of a small vineyard, I send you some observations on grape-culture as I have found it in my experience.

The vines are mostly Concords, planted upon the southerly slope of a low hill, and looking a little to the southeast. I have in addition a few vines of each of the newer kinds that are competitors for public favor. My soil is a clayey loam, underlaid by rock; in making the borders for the vines I was obliged in several places to excavate this slaty rock in order to obtain a sufficient depth for the plants. Towards the foot of the hill I have some Concords in a soil both deep and rich, and inclining to moisture. I have found that vines on a dry sub-soil, though it may be shallow, do far better than those which enjoy a rich soil, but moist. I would not ordinarily attempt to raise the later grapes, such as the Concord, Isabella, and Catawba, unless entire exemption from moisture could be secured. My crop last year was a good one—I may say very good, considering the tendency to mildew, which so generally prevailed along the line of the Hudson, from Poughkeepsie and vicinity south to New York, and through portions of New Jersey. I did not suffer at all on my grounds from the mildew of the leaf, and

but little from the mildew of the berry. My Catawbas, however, were much affected by the rot; those in the garden, on vines growing in a soil enriched by a deep and thorough culture, were totally ruined. Two or three vines on the stony hillside produced as sweet and as beautiful specimens of this grape as I think the West could furnish. Could such a product be relied upon every year, with any degree of certainty, I doubt if any new sort could supplant the Catawba as a late grape. During previous years I have had the rot to a small extent on the vines last mentioned—that is, on the hill—but never to the extent that it has appeared on those spoken of as in the garden. I should here mention a Catawba vine which I have running high up into two cherry trees, which, although growing in a very rich and moist soil, nevertheless perfects its fruit almost every year. It is true the bunches are small, and the berries are not very thick on the bunch, nor are they of very large size, but still the grapes are, on the whole, quite fair. For several seasons I had attempted to confine this vine to a trellis, but finally its vigorous growth carried it to the neighboring trees, and I let it go. While it was confined to the trellis I never obtained any ripe grapes; the rot always destroyed the fruit before maturity. Since reaching the trees it has produced good fruit quite regu-

larly. I attribute the change to the greater degree of light and air obtained among the branches of the tree, and it may be owing also to the greater height of the fruit above the damp air which rests at times for a few feet above the surface of the earth, increasing in density as it approaches the ground. I intend to try still further this experiment of planting the Catawba by trees, and with this view I have just transplanted two vines from the garden into a dry, rich soil by the side of trees. This transplanting I have accomplished by means of a frozen ball of earth attached to the roots, just as we now commonly transplant trees in winter. In this way a vigorous vine is obtained and made to grow where a young and feeble vine might not readily succeed—that is, under or very near the shade of a tree. I transplanted in this manner, three or four winters ago, two Concord vines, and upon these I have raised since some of my best fruit. This is an excellent way of transplanting layers. I would not advise planting by a tree any variety of grape subject to depredation by birds. I had a Northern Muscadine vine trained on a plum tree; depending from the tree on every side, and thick with reddening clusters, it was a beautiful sight but as the grapes ripened, the birds were attracted to them, and no amount of attention was sufficient to prevent the almost entire loss of the crop; hardly a perfect bunch was left: but more of the birds hereafter.

I used last season on some of my vines the bellows for throwing sulphur, recommended in the March number of the *HORTICULTURIST*, 1865, by *Horticola*. I prefaced the use of the sulphur, with the wash composed of a solution of salt, saltpetre, etc., according to the directions. The vines were dusted with the sulphur four times, beginning with the appearance of the leaves, and ceasing at the time the berries began to color. I had no mildew of the leaf on any of my vines. There was a trellis of Isabellas, which re-

ceived one coating of sulphur late in the season, and many Concord vines which were not dusted at all; the leaves on these also remained perfect, as well as the leaves on the vines thoroughly treated. My Delaware vines retained their foliage until the last, and the fruit matured; the crop however was not abundant, and the vines themselves not very vigorous.

Some cultivators in my vicinity lost the leaves of their Delawares from mildew very early, and of the masses of handsome fruit which hung on their vines, only a portion colored well; the remainder refused to color or to become sweet.

Whether it was the paucity of fruit, or the use of the sulphur, or a fortunate location of my vines that caused them to retain their foliage I cannot say. I am inclined to give credit to the sulphur, and shall continue its use next season.

In the article in the *HORTICULTURIST*, already referred to, it is stated that a lady had saved her gooseberries from mildew by the use of the bellows. I tried the experiment on my gooseberries soon after they had formed on the trees; the result was not very satisfactory; most of the berries and many of the younger leaves it is true were saved from mildew, but only by being killed before the blight had a chance to show itself; the sulphur had proved too strong for them; the very few gooseberries that survived the treatment ripened free from disease. I had almost forgotten to say that the sulphur *did* prevent the ravages of the thrips; of this I am confident; it was only at the close of the season, when sulphur had been discontinued, that these insects began to show themselves.

About the 7th of July, I found on several, of my Concord vines a number of bunches of young grapes, covered alike on stem and berry, with a greenish-white mildew; the leaves of the vine were as fair as usual. Up to this time these vines had not received any sulphur. I commenced the dusting at once, rendering those branches and the adjacent leaves yellow with the sulphurous

deposit. I repeated this twice afterwards; the mildew did not extend beyond where I first saw it, but the bunches affected were not cured; they colored and ripened after a fashion, but on the slightest movement of the vine the berries would drop from the stem in numbers, and the ground would be covered with them. On one luxuriant vine the south half was badly mildewed, while the north half, trained along the same trellis, and growing under precisely the same circumstances, produced fine, healthy fruit. As these mildewed branches showed themselves where the vines were thickly planted, and the leaves formed a somewhat dense covering, and as they were withal within two or three feet of the ground, I concluded that a want of proper ventilation and obstruction of the sunlight might have induced the disease. I have no doubt but these circumstances do serve to favor its propagation, if they do not originate it. On the 22d of July, I found this same mildew of the berry prevailing in a large vineyard of Concords, where the disease could not be traced to any of the causes above described. These vines were on the grounds of Messrs. H. & J. Carpenter, about a mile and a half from me. They were situated on a gravelly knoll, in the midst of a large field, away from any trees, and were trained on poles, with ample room for light and air, yet under these circumstances, a crop of perhaps a thousand pounds or more, was ruined by mildew. I saw the vineyard again in the fall, the ground under the vines was strewn with the falling grapes, which, although diseased, had up to this late period remained upon the vines and had colored, but now dropping from the stem were without flavor and worthless. For several previous years these vines had been free from every disease, and had borne splendid crops of grapes. No manure of a stimulating character had been used. Since setting out the plants, bone dust has been the only manure applied, and that not abundantly. How could this disease have appeared under such conditions if not through some atmospheric influence, yet eluding the search of our cultivators?

On the appearance of this mildew the Messrs. C. had applied a solution, or rather a mixture of sulphur and lime in water, but apparently with little or no effect in removing the disease. The foliage of these vines did not have a healthy look; the want of a bright green color to the leaves was visible at some distance, yet they were not so affected as to drop off.

Although mildew did not effect my berries materially, my crop of Concords was diminished somewhat from several other causes. There was a species of rot prevalent to a small extent, and distinguished by a yellowish rusty spot on the berry, as though it had been scalded by the sun, though I do not think it was thus caused. Another kind of rot prevailed, which caused a premature coloring of the berry; in this case the berry hardened, instead of becoming softer, and at the time of ripening was red in color and had to be cut out of the bunch when picked for market. This rot, if it may be so called, showed itself in spoiling single berries on the bunch; sometimes one or two on a bunch, at other times many more. Large bunches of grapes were thus reduced by the necessary thinning out to very small specimens. I think this difficulty occurs during the same kind of weather that seems often to generate the rot on the Catawba. I mean the hot, close weather, which with alternate sun and shower brings out rust upon wheat.

My crop of Concords was also shortened by the splitting of the thin skin that envelopes this grape; this happens often just at the point of connection with the stem, and is not perceived until the berry is found to lose its fullness, and to dry up. In picking for market, many berries thus split have to be removed.

The birds also inflicted much damage, perhaps as much as was caused by any two of the agencies I have just mentioned. I suppose I am more of a sufferer in this way than many others, because my grounds are thickly planted with trees, and these in groves, and adjacent to the vineyard. The determination of the birds to regale them-

selves on my choicest Delawares, Dianas, Concords was most persistent. In my first experience in this line, I merely frightened the birds away from the vines, but this was a lenity for which I dearly paid. I constantly found my choicest bunches of grapes one after another turned into unsightly masses of decaying fruit, and the crop daily diminishing from the attack of these intruders.

I was unable to save any superior bunches for exhibition, until I finally covered a few with bags made of coarse millinet, and this protected them. After several seasons of trial I have at last resorted to the gun as the best mode of defence. I do not mean merely the exhibition of this instrument as a terror to evil doers, but something more: I mean its use for the actual destruction of all depredators. I know some will deem the treatment harsh and cruel. If so, then we must give up the cultivation of the earlier and sweeter grapes, or else discover some other means for the constant and effectual expulsion of the depredating birds. Two gentlemen of my acquaintance set up scare-crows among their vines; these were found serviceable, at least for a time, but they are not practicable on a large scale, as they would have to be distributed at frequent intervals along the trellises.

As for driving away the birds by the throwing of stones at them, it is useless to attempt it; made to fly from one corner of the vineyard, they will alight in another; then, if pursued, they will most likely take refuge in the place whence they were at first expelled, and so back and forth, until the discomfited pursuer is breathless and disheartened, or if the birds fly from the vines into neighboring trees, the wily thieves will wait there, until the back of the vineyardist is turned, and then swoop down again to renew the feast with an appetite only sharpened by the temporary interruption. If you wish to save your choice and early grapes for your own eating, rather than furnish delicate food for the fowls of the air, early in the morning light seize your gun, rush out, and lay low the very first bird

found perching on your trellises, or covertly flitting from row to row under the vine leaves. But, hold, I should not say *every* bird; I do not think I ever saw the wren, or the blue bird, or chipping bird, or the yellow bird guilty of this wasteful foraging; but if you see under these circumstances a cat bird, a robin, or an oriole, forget for a moment their sweet songs of a spring morning, and shoot; it is hard, I acknowledge, but to lose all your grapes right before your eyes is still harder.

In addition to the kinds of grapes already named, suffering from the rapacity of the birds, add the Hartford Prolific, and I may perhaps say, all of the very early grapes. The Isabellas are rarely touched, except by an occasional flock of robins; the Catawbias never. A gentleman living within the limits of this city, where we do not ordinarily look for many birds, told me, last summer, that he should give up the cultivation of the Elsingburgh, among the many varieties that he raised, solely on account of the impossibility of obtaining any fruit of this sort; the birds devoured or destroyed the whole of it. Others in this vicinity picked their grapes before they had fairly matured, in order to save them from total destruction by the marauders.

Some cultivators complain of the bees and the wasps injuring their crops; I am inclined to think, from my observation, that as long as the grape berry is sound, it is impermeable to the attacks of these insects; but as soon as a Delaware or a Concord splits, as they both will at times, or as soon as they are punctured by the bills of birds, the juice exudes, and then the wasps and bees, with the flies, all congregate to feast on the unimprisoned sweets. I could always tell on my vines where the birds had been at work, by the activity of these insects in the immediate neighborhood. I am aware that wasps destroy blackberries, and injure pears and peaches, but in these fruits, there is always a soft place frequently of initial decay, which gives opportunity for the first perforation, and

the work is continued by undermining the skin and consuming the tender flesh beneath. The enveloping skin of the grape is equally hard and tough at all points. I speak of our out door grapes; those grown under glass, with a tender skin, may possibly be liable to injury from wasps.

These insects, then, do not originate injury, but only continue it; coming to feed where some operation of nature, or the art of a bird, has already opened for them in a fountain of sweet juice, a most inviting entertainment.

My rambling notes are perhaps already extended, but as a part of my experience I would like to add the fact, that out of twelve or thirteen or more varieties of grape cultivated by me, I find that Rogers No. 15 exceeds them all in high aromatic flavor, so

much so, that the finest Concord tasted after it, is tame and vapid. I tried this experiment on several visitors to my vineyard last summer, and they all acquiesced in this opinion.

This grape has not the delicate juices of the Delaware, but, on the other hand, it has a sweet, tender and meaty pulp, highly flavored, and at once reminding the taster of the Black Hamburgh grape, from which variety it is said to have been in part derived. The vine itself is vigorous and hardy, and has the merit of retaining its foliage in perfection, an advantage not to be despised, where the Delaware is apt to cast its leaves before maturing its fruit, and of which fact I saw many instances last season.

Po'keepsie, Feb'y 1st, 1866.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

WE have just published, at this office, new and revised editions of Jacques' popular manuals of THE GARDEN, THE FARM, THE BARN-YARD, and THE HOUSE.—These treat very thoroughly the subjects named, have been carefully prepared and revised by a popular writer, and we commend them to our readers as valuable additions to their libraries. Sent, post paid, on receipt of price. THE GARDEN, FARM, and BARN-YARD, \$1 each; THE HOUSE, \$1.50.

EARLY DISBUDDING THE GRAPE.—The old saying of "a stitch in time," etc., is strictly applicable in training the grape vine. As soon as the buds have grown to four inches, they should be carefully looked over, and all shoots rubbed off except such as are wanted to grow and leave the vine in good shape for another year. In vine-

yard culture, the shoots to be left, for new and fruiting canes the following year, will vary from one to three, according to the strength and vigor of the root. In the spur practice, buds for new canes are only to be left where an arm or upright is needed to fill up, or some old one renewed. The pruning of the grape vine is really simplicity itself, notwithstanding so much, *pro* and *con.*, written upon it. If care is given to disbudding at the right time,—that is, before the shoots have made over 4 inches (better even less) growth, and a little common sense as to how much nature can endure, and keep healthy, in the way of wood and fruit, the pruning of a vine would require little use of anything but thumb and finger.

FAILURE OF CUTTINGS TO GROW.—We believe many grape and other cuttings fail

to grow because of too long drying, or being out of the ground from the time of cutting from the vine or bush, until planting out. In our practice, we have rarely lost a cutting whenever we put it in sand or earth immediately after taking it from the parent plant. When we have received cuttings too dry to please us, we have practised laying them horizontally under ground about four inches deep, in a well-drained place, and then frequently saturating the ground with water. We thus keep them wet, and the wood and buds swell alike evenly, while the well-drained or sandy land prevents any standing water.

REMEMBER to pluck off any fruit that may set on a newly transplanted tree or vine. If left to perfect, it will be at the expense of healthy, vigorous growth of the plants, and corresponding depreciation in quantity and quality of fruit the next season.

GRAPE-HOUSES.—When the roots are entire inside, it is better to thoroughly saturate the ground once a week, or as often as necessary, than to be dribbling on water daily. With good drainage, the former course wets and stimulates all the roots alike, while the latter only gives but half a drink to those near the surface. With good, vigorous, healthy roots, no failures need occur in growing grapes inside.

DAHLIAS AND DOUBLE HOLLYHOCKS form elegant features as backgrounds to a flower border, and masses of them, at intervals, on the sides of approach roads, are very pleasing, and help to give variety and charm to the grounds. In planting out the dahlias, use but one stem at a place; set them about three feet apart, and as they grow, pinch back, so as to make them grow more like bushes than trees. The waste water from the kitchen—soapsuds, &c., is one of the best manures for the Dahlia.

Hollyhocks have come to be equally

beautiful in flower as the Dahlia; and, as they can be left in the ground, will probably become more and more in vogue. They should be transplanted and divided, about once in two years.

CHOICE OF ROSES.—Although the Hybrid Perpetual Roses give blooms more or less during the season, and are perfectly hardy, so that they may be left out all winter, yet the beauty of a rose-bed—one where buds and blossoms may daily be gathered—will be found to consist in having a large proportion of Teas, Bengals and Bourbons. Novelties, *i.e.*, new varieties, are brought out each season, one or more of which every amateur is expected to buy; but of the old sorts that have proved good with us we name—Adam, Bougere, Caroline, Sombreuil, and Cels, as of Teas; Agrippina, Louis Philippe, and Lady Byron, as of Bengals; Bosanquet, Hermosa, Souvenir Malmaison, and Paul Joseph, as of the Bourbons. There are many others, perhaps, equally good, perhaps, better, but the above small list embraces those that have always given us pleasure, as good growers and free bloomers.

FLOWERING SHRUBS, such as Weigela, and others that flower on the preceding year's growth, should be trimmed back immediately after they have done flowering in June. By so doing, the plants can be kept in just such shape as may be desired by the operator.

ROSES, as soon as the flowers have opened and bloomed one day, should have the decaying flower cut away; cutting back to a good strong bud, from which will come a new stem and flowers. Attention to this practice of cutting will keep plants blooming almost continuously.

THE WHITE SUGAR BEET, if grown in ground not too rich, we have found more delicate for the table than any other variety, if we except the Bassano.

BEDS, OR BORDERS, where Tulips, Hyacinths, &c., are grown, may be planted with verbenas and other bedding out plants, taking care to so plant that when the time—August—comes for taking up the bulbs, the roots of the bedding plant may not be disturbed.

WHEN TRANSPLANTING Tomatoes, Egg Plants, &c., set the roots in a pan of muddy water. Perform the work just before sundown, and few will fail. If the following day is a very clear, hot and sunny one, then it is best to shade them during the heat. Shingles, stuck on the south and west side, answer well.

THOSE who have peach trees should not fail to cut them back this spring, and so cause them to throw out new and vigorous shoots, and give improved shape to the tree. Do not cut, however, until about the usual time for the peach to bloom, but then head back severely. Old and scrawny trees will bear to be cut nearly back to mere stubs, or with limbs only one to two feet long.

FRUIT TREES should be carefully looked over in April and May, and the webs or cocoons of insects destroyed. Any appearance of black knot on young trees should be cut away. If the coccus or scale insect shows itself, wash the bodies at once with strong ley and sulphur. Some advise a wash of salt brine all over the tree at this time; we have never tried it, and therefore cannot speak knowingly of it, but intend to be able to do so another year.

THE PERSIMMON.—The tree of the Persimmon is one of the most beautiful in its habits of growth, as well as in the glossy character of its foliage; but, aside from its beauty and adaptation as an ornamental tree on lawn or road side, its fruit is very delicious. Many are under the impression that persimmons are utterly unfit to eat, and the expression "as puckery as a persimmon" is used to decry any acid sub-

stance; but such expression does injustice to the persimmon, which varies as much in its fruit, as a like number of apples and pears. In Southern Illinois, Missouri, and elsewhere, there are many trees of persimmons that ripen their fruits in August and September. Seeds of such should be obtained, if to be grown from seed, but if young trees can be obtained, it is better to engraft with scions from trees known to produce large fruit, and that ripen early in the season. The late ripening sorts are many of them good, and if left on the trees until midwinter are almost as good as bananas, or pawpaws, which they nearest resemble in taste.

THE PEACH WORM—*Egeria Exitiosa*.—May be prevented from doing much injury to the peach tree, by clearing away the dirt, say four inches deep at the crown of the root, and painting it six inches up on the body of the tree, with coal or gas tar; but the work must be done before the leaf starts.

GRAPE CUTTINGS.—For some years we have grown more or less of grape cuttings from single eyes, in the open ground; we first prepare the ground, by trenching and enriching; then our eyes are cut, with about one and a half inch of wood below the bud, and about half an inch above; we set our eyes carefully, in an erect position, and cover nearly an inch with the fine soil; then we add about three inches of a light mulch, saw-dust, or fine chopped straw and saw-dust mixed; water thoroughly, if it does not rain about the time of planting—and afterward we look over our beds from time to time, and whenever they appear dry we water; but in most seasons this part of the work is only on paper; occasionally we have had to do it, and only name it here because success depends on keeping an even state of moisture in and around the cuttings; others may not succeed as we have, but any one can try it.

NEW STRAWBERRIES.—We have had our day of enthusiasm on new plants, fruits, etc., and especially have we “gone it” on strawberries; our experience, therefore, may perhaps cause us to be now more than careful ere we dictate on the “wonderful” qualities of new sorts, as they are from time to time being introduced. The present season, perhaps, as many or more new varieties are being offered for sale than usual, and while it may be well for the amateur to try all, the owner of a garden spot, wherein he designs to grow strawberries for their fruit, had best confine himself to some two or so of leading well known kinds, that all acknowledge to be good in their fruit, vigorous of vine, and productive of quantity. To select these sorts it is only requisite to look into a few of your neighbor’s gardens, and use the Yankee’s privilege of asking a question.

PEAS soaked twenty-four hours in urine, then dried off in ashes or plaster, are said to come forward much earlier, and stronger than when planted in a dry state.

OYSTER PLANT OR SALSIFY.—Remember, that to grow this plant well, it requires a deep and rich soil. Sow the seed pretty thick, and after the plants are up two inches high, thin out to one in about four to six inches in the row, with the rows one foot apart. No Vegetable is more delicate or attractive to the palate in early spring than the salsify, when it is well grown and well cooked—every garden should have a bed of it.

GRAFTING OR SPRING BUDDING THE PEACH.—When a new variety is obtained in spring, with some doubt of the tree living, or when trees budded last fall have failed to unite, it may be desirable to graft or bud in spring; to do this, cut the grafts and place them in the cellar about ten days before you design to perform the work; then use a graft or cutting of two buds, on a lateral, inserting it as in bud-

ing, and tie with bass matting as usual in budding; or form a graft of two eyes, as for a pear or apple, inserting it as described in the books for side grafting, and immediately tie the branch above, over in the form of an arc. If the branch on which you engraft is too large to bend over easily, then cut it off at once, about six to eight inches above the insertion of the graft.

STRAWBERRY.—Vines, planted at this season of the year and mulched, will often give a partial crop of fruit—are very sure to live and grow, and increase during the summer; so that vines now planted three feet apart each way, will by fall nearly cover the entire ground. Spade or plow the ground as deep as possible, say nine to twelve inches, rake level, and plant. Moderately rich ground is better than either very rich soil, or that which is poor. Too rich a soil causes the plants to make too many runners and new plants, at a loss of fruit, while too poor ground gives a feeble growth of vine, and a small fruit. If manure is used to enrich, it should be old and well rotted.

CELERY.—The seed of celery should be but barely pressed into the mold, and then a board laid upon it, say for forty-eight hours; afterwards raise the board up, say about two inches, and keep the celery shaded until it has grown an inch, when the shade should be removed, except in the middle of the day. It is not necessary to have a hot bed in which to grow celery plants for next winter’s use; but if you have a gentle bottom heat from a spent hot bed, all the better. Many burn their seeds and young plants by using too strong a bottom heat.

When transplanting to the rows for permanent growth, trenches may or may not be made. We have grown just as good celery plants, when planted on level ground—soil having first been made deep and loose,—as we have in trenches.

SALT we have found one of the best manures; use at the rate of eight bushels to the acre, or, if you have animal manure which you design to apply to your celery ground, use half the quantity in proportion, diluted and poured on, and mixed up with the manure before applying it on the land.

PLASTER PARIS.—Gypsum is extremely beneficial on every garden where animal manures have been applied for years. If your garden soil was last year pretty full of worms, leave off the dressing of animal manure this year, and apply at the rate of four bushels of salt, and one and a half of plaster per acre.

THE LINNÆUS WINE PLANT is one of the numerous barefaced impositions of the day, which is receiving merited exposure in various quarters. This wine plant, as it is called, is nothing but the common garden rhubarb, and yet it is sold, by itinerant swindlers, by tens of thousand dollars worth, in various parts of the country—The American Institute Farmers' Club have tested the liquor made from it, and pronounce it "a nauseous, unwholesome compound of acid and sugar, partly converted into rum, as unlike wine as those who sell the plants are unlike honest men."

WE ARE always interested and gratified in hearing of anything new in the way of material for hedges. While the necessity exists for every man's fencing out his neighbor's stock, every plant that will form a live fence, in the place of the costly and unsightly rails, and boards and posts, which now encumber our lawns and fields, is valuable, not only in an esthetic, but in an economical point of view. The annual cost of fencing the farms of the United States would soon pay the national debt, large as that is. The desideratum for live fences is, to find a hedge-plant that shall be perfectly hardy, easy to propagate, and that shall afford protection against the intrusive propen-

sities of cattle and other animals. It is said that the common barberry (*barberis vulgaris*) combines these qualities in a noteworthy degree. The barberry is indigenous to the northern parts of Europe and Asia, but has become thoroughly naturalized—like many other foreigners—to the American soil.—The *Wallingford Circular* speaks in high terms of the barberry as a hedge-plant, and notes in its favor its "habit of sending up suckers from the bottom, by which, in a few years, it comes to have a base from six to twelve inches in diameter." It occurs to us that this "habit of sending up suckers" might become troublesome in the neighboring lawn or garden. However this may be, the barberry is worth testing for hedges.

OUR CORRESPONDENT who inquires as to the expediency of plowing up his lawn, on account of the running out of the grass, is informed that there is a remedy for this difficulty, without the necessity of any such inconvenience as is suggested. The fertility of the lawn may be restored and preserved by thorough top-dressing. Use for this purpose stable manure, bone dust, plaster, muck, ashes—whatever the soil seems most to need to restore and enrich. The lawn should be, of course, properly underdrained, and then, with judicious treatment in top-dressing, rolling, and mowing, it may be kept perpetually in the finest condition.

THE GARDENER'S CHRONICLE (Eng.) recommends the planting of snowdrops in masses on lawns, and tells us that the effect in early spring is admirable. The roots are planted in the green sward, and on the melting of the snow, before the grass starts so as to conceal them, they burst forth into full bloom. The leaves of the snowdrop are formed early in the season, and before the grass requires to be cut they have performed their functions. The bulbs, therefore, lie securely under the surface ready to start up into beauty the following spring. We should be pleased to see this experiment tried on some of our beautiful lawns.

AN ELEGANT testimonial, in the shape of a gold medal, has been presented to an American *savant*, Townsend Glover, Esq., by the French Emperor. The occasion was an exposition at the Palais d'Industrie, in Paris, of useful and injurious insects. Mr. Glover has been employed for some time in the Department of Agriculture at Washington. He is well skilled in the science of Entomology, and his researches and labors in the interests of Pomology have been of great value to horticulture. On the occasion of the French Exposition, his contributions to the knowledge of insects injurious to horticulture, &c., gained him the Imperial gold medal. It is an honorable distinction for our country to be so represented among European savants in the walks of science.

THE APPLICATION of manure to fruit trees should be made with a view to feed the roots and not the trunk. We often see a heap of compost, or some sort of fertilizer, piled up around the foot of the stem, where it can do very little good. Fruit trees of six or eight feet in length extend their roots about the same distance on every side. The fertilizer should, therefore, be spread over that amount of surface, worked into the top of the soil, so that its stimulus may reach the roots and rootlets, and so supply nourishment to the tree.

HOVEY'S MAGAZINE, in a notice of the chief publications on horticultural subjects which appeared during the past year, thus speaks kindly and genially of the two works which have been issued from our office:—"WOODWARD'S GRAPERIES AND HORTICULTURAL BUILDINGS, an excellent volume, giving a variety of information in regard to the constructing, warming, &c., of such structures; also, WOODWARD'S COUNTRY HOMES, a work which may be read to advantage by all who are about building in the country."

CALADIUMS, to our fancy, are not particularly ornamental as house plants for summer, except to hide the nakedness of a greenhouse; but if they are massed out in the grounds, they grow so large and rapidly, and their foliage is so strong, that they make a very distinctive feature in the grounds, and so ornamental. They may be taken up in the Fall, and kept with little or no care, in a cellar that is dry and free of frost.

WE OBSERVE that the Massachusetts Horticultural Society has made an appropriation of \$3,100 for premiums the ensuing year, to be divided between gardens, flowers, fruits, and vegetables. What is the New York Society doing to stimulate competition and encourage horticulture?

BOOKS, CATALOGUES, AND PAMPHLETS RECEIVED.

RURAL AFFAIRS.—We have received Vol. IV of this welcome publication. Much useful information to those who have a farm or garden to cultivate is to be found in its pages. Published by L. Tucker & Son, Albany. Price, \$1 50....Transactions of the Illinois State Horticultural Society....Transactions of the Agricultural Society of the County of Plymouth, Mass....John W. Adams, Portland, Maine, Evergreens and General Nursery Stock....F. B. Fancher, Catalogue of Grape Vines....Henry A. Dreer, Philadelphia, Flower Seeds....G. Marc, Astoria, Long Island, Trees, Shrubs, Vines, Greenhouse, and Hardy Plants....E. Ferrand, Detroit, Mich., French Hybrid Gladiolus....John C. Teas, Raysville, Indiana, Raysville Nursery....E. Y. Teas & Bro., Richmond, Indiana, Nursery Stock....John Saul, Washington, D. C., Catalogue of Plants....Prince & Co., Flushing, L. I., Grape Vines,

THE HORTICULTURIST.

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VENTILATION.

BY A. D. G.

IF we mistake not, this subject has already been touched upon in books and papers, but perhaps it will bear another citing. Much as has been said about it, few persons are sensible of its importance. Many are careful to provide excellent food and clothing for themselves and their families; their houses must be handsome and filled with elegant furniture, but as to the quality of the air they inhale, they give themselves little concern.

Providence has surrounded us with an ocean of pure air fifty miles deep, but we bottle up a portion of it and seclude ourselves within it, rendering it poisonous, and then ask one another if this is not domestic comfort? If we exclude air entirely from the lungs longer than three minutes, death will surely follow, but impure air may be breathed for many years, and the patient continue to live. Bad air is a slow poison. That's the trouble; if it only did its work quicker, and in a more striking and conspicuous way, men might be deterred from

recklessly breathing it. Those who habitually inhale it are rendered insensible to the sweetness of a pure atmosphere; their taste becomes as vitiated as the air in which they dwell.

If any one doubts the importance of ventilation, we beg to remind him of a few facts. Science tells us that atmospheric air is composed of oxygen gas and nitrogen gas; the former being a supporter of combustion and of animal life, the latter not such a supporter, nor yet positively destructive of either; its office in the animal economy seeming to be to dilute the oxygen which in its pure state would act too powerfully on the system. In the process of respiration, while the nitrogen is given off from the lungs essentially unchanged, the oxygen unites with the carbon of the blood, forming carbonic acid—the same gas which is produced by burning charcoal in the open air—and this poisonous substance constantly being exhaled into the rooms we occupy, it would seem important to dispose of as soon

as possible. To this it might be added that more or less excrementitious matter passes off continually by insensible perspiration through the pores of the skin, which is of the same deleterious character, and urges the same plea for ventilation.

We are told, again, that "every twenty-four hours, there flows to the lungs sixty hogsheads of air, and thirty hogsheads of blood."* What is the design of this? To purify and vitalize the blood. Now, as the health of the body depends largely upon the purity of the blood, and this last upon the purity of the air, we may estimate the importance of looking well to the quality of what we every moment breathe.

And these conclusions of science are confirmed and illustrated by daily observation and experience. Whence come the pale and sallow faces, languid eyes, headaches, catarrhs, debility, coughs, and consumptions which we continually meet with? Whence, chiefly, except from long confinement in the unwholesome air of unventilated houses? And yet we wonder what can be the matter. Are not our dwellings warm and comfortable, and perhaps genteel? We Americans are less robust than our English cousins, men and women. Travelers from abroad, while acknowledging the delicate hot-house beauty of our young ladies; yet tell us our wives and daughters look sickly and frail beside the ruddy, round, elastic figures of their own fair ones. English women live more out of doors, and ventilate their houses better than we do.

In the great majority of our school-houses, work-shops, court-houses, hotels, railway-cars, concert-halls and churches, the air is unfit for breathing. As a general rule, the windows and doors are kept closed, and the oxygen of the air being rapidly consumed by the burning of many lamps and fires, and by the inspiration of numerous occupants, it is impossible for one to remain long in such places without serious injury to his health. Whence the nausea and headache next morning after concerts and lectures?

Whence much of the lassitude, listlessness and irritability of scholars and teachers? Whence the dullness of sermons and the drowsiness of congregations? True to life is the story of the old Scotch minister who, greatly troubled with the inattention of his auditors, preached to them a series of discourses on "The Sin and Shame o' Sleepin' in Kirks," but without any appreciable improvement of their manners; when, at length, ordering the sexton to partially open several windows during service, the result was all that he could desire.

Time was when our dwellings and public buildings were so constructed that ventilation came as a matter of course. The doors and windows rattled with their looseness. In private houses, the broad fire-place sucked up and carried off the foul air as fast as it was generated. Then, too, men and women lived much in the open air, and were not afraid of it. Now, we make our doors and windows air-tight; our rooms over heated by air-tight stoves and furnaces; fire-places are seldom seen, or are made for ornament, and closed up with fire-boards; and our food is cooked in air-tight kitchen stoves. These modern improvements cost us dearly, and must continue to do so until we conform more to the laws of health.

In suggesting a few hints as to the best *methods* of ventilation, the writer will speak only of those which may be applied in winter; for in summer, this matter will mostly take care of itself.

To provide fresh air for a dwelling-house, some would say, knock out a panel from every door, and a pane of glass from every window. Others, less heroic, would propose that every door be set ajar often during the day, and that rolling blinds be inserted in every fire-board, to be opened and closed at pleasure. It is an excellent arrangement, also, to insert a register, or a valve like Dr. Arnott's patent, in the chimney-breast near the ceiling, which can be controlled by a simple pulley and cord.

But it is important to bring in a constant supply of fresh air, as well as to expel that

* "Uses and Abuses of Air," by Dr. GRISCOMB, p. 29.

which is vitiated by use, and to introduce it in such a way as not to let in also the influenza. When grates are used, it is customary sometimes to introduce a current of out-door air into a hollow space in the chimney, behind the fire, where it becomes warm before entering the room. But for the majority of country-houses, grates are the exception, and close stoves the general rule: how, then, can we ventilate rooms warmed by stoves? One simple method is this:—Surround a common iron stove with a neat Russia iron case, leaving a space of six inches between the two, and cover the whole at the top with an ornamental grating. Connect this apparatus with the air out of doors by a tin conductor four inches in diameter, leading from a cellar window along under the parlor floor, and then up through the floor into the open space before described. A damper should be inserted in this pipe, to regulate the amount of air brought in. By some arrangement like this, we can introduce a constant supply of pure air, which, when warmed in the air-chamber around the stove, will flow out in a genial current through the perforated top into the apartment. It is to be supposed, however, that a register or valve is also provided in the chimney flue for carrying off impure air as fast as fresh is brought in. The method thus stated, is the same in principle as “Clate’s Patent Ventilating Stove,” which is used in some of our large public schools.

The grate, or the close stove arranged in the above manner, will answer well when only one or two rooms are to be heated; but when a whole house or large public building is to be warmed and ventilated, The hot-air furnace will do the work better. (We speak not now of warming by steam or hot water: for these methods are too expensive for general adoption, and where used do not seem to give entire satisfaction.) The hot-air furnace, properly constructed, with gas-tight joints, and a large copper pan in the air-chamber for evaporating water, provides a constant supply of fresh,

summer-like air, and sends the wholesome current, hour after hour, through all the building.

It is, however, an essential requisite of this method of warming a house, that provision be made for a current of air to flow out of every room, as well as one to flow in. Indeed it is difficult to warm a house in this way, unless some such provision is made. Can you blow wind into a bottle, without first displacing an equal portion of the air within it? * Properly to ventilate a house warmed by a furnace, every room should be provided with a ventilator leading into the chimney-flue or into a ventiduct carried up by its side. For, if not so provided, not only will it be hard to force fresh air into the rooms, but that which is forced in will be drawn down again through the registers into the furnace-chamber, whence it will be returned again and again to the apartments for repeated respiration. This is continually occurring in multitudes of houses, and public buildings.

The opening referred to, for the escape of impure air, should be on the side of the room opposite to the register, and should be as near the floor as practicable. If it is made near the ceiling, the freshly-heated air rising at once to the top of the room will pass off through the ventilator and be lost, leaving the cold and impure air near the floor unwarmed and undisturbed; whereas, if the opening were made near the base of the chimney, then the newly-warmed air, after first rising to the ceiling, would descend and drive the cold air along the flue up the chimney or ventiduct, and so facilitate

* Soon after the erection of the splendid edifice for the Smithsonian Institute, it was found impossible to warm one of the large halls of the building, so as to make it comfortable. The windows and doors were made airtight, and the large furnace in the basement was driven up to red heat. Still, the air in the lecture-room remained dull and cold—the thermometer indicating only from 45° to 50°. After some time, a man of common sense hearing of the difficulty, called for an auger and hand-saw, with which he soon cut a hole in one corner of the floor, about eighteen inches square. Immediately, there was a change in the air—a healthful circulation commenced, and in half an hour, the mercury ran up to 75° !

both the warming and the ventilating of the apartment. The escape of the vitiated air up the chimney flue would be helped by kindling a small fire on the hearth or in the grate. Indeed, this arrangement—the furnace and a fire on the hearth, constitutes, to our mind, the best known method of warming and ventilating a dwelling-house: the furnace affording a comfortable warmth to the halls and rooms of the entire build-

ing, while the ruddy light in the fire-place gives a cheerful, homelike expression to the apartments occupied, which can be gained in no other way; and both together furnishing ample ventilation.

Let it be added, finally, that while specifying these several plans for ventilating buildings, we have desired to suggest correct principles, rather than to advocate particular methods.

DESIGN IN RURAL ARCHITECTURE—No. 15. A SMALL STABLE.

G. E. HARNEY, ARCHITECT, COLD SPRING, PUTNAM COUNTY, N. Y.

WE offer the readers of the *HORTICULTURIST* this month a design for a small stable. It has accommodation for two horses and a cow, besides a separate apartment for carriages, and another smaller room for harnesses, &c.

The carriage room measures 13 feet by 22. Each horse-stall is $5\frac{1}{2}$ feet wide, and $9\frac{1}{2}$ feet long to the rear of the stall partition, or 17 feet to the partition of the carriage-room.

The stalls are provided with cast iron

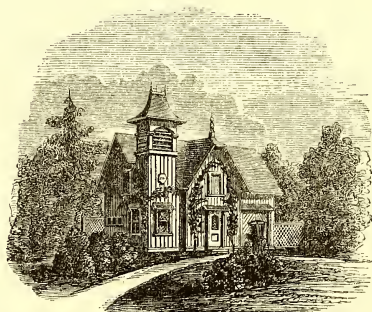


FIG. 70.—*Perspective.*

mangers and iron hay-racks each secured to opposite corners of the stall. We consider these iron fixtures the best in use, but care should be taken to keep them always coated with some kind of paint, to prevent injury to the horses mouths in winter, when they are liable to become frosted.

The cow-stall is $4\frac{1}{2}$ feet wide, and is provided with a manger and some suitable fastening apparatus; for the latter, we prefer the ring and chain, though the old-fashioned stanchion is recommended by many.

The floors of the stalls should be laid

with smoothly-planed locust joists, slanted towards the gutter just enough to take away the water—say two inches in the 9½ feet.

The harness-room is provided with hooks for harness; a closet to keep brushes, soap, oils, medicines, &c., &c.; and a small stove to heat water for washing harness, &c.

There is a rain-water cistern, built with brick and cement, in the yard, near the rear of the stable, and this, taking water from the roof, by means of tin conductors, supplies all the water required.

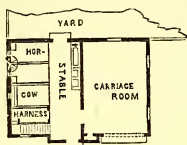


FIG. 71.—Ground Plan.

Rain water is much better for stock than spring water. The pump is inside the stable, as will be seen in the plan, and empties into a trough, convenient to which are chests lined with tin, for holding oats and meal, &c.

A ventilating shaft rises from the stable-room to the ventilator shown in the sketch, and this, with the small windows in the head of each stall, provides sufficient circulation of air. In the summer, the doors may be taken off their hinges, and gates

with locks substituted in their place. The little windows spoken of are placed *above* the heads of the horses—say seven feet from the floor, and are opened by means of pulley and rope.

At the rear of the building, a door opens into a yard enclosed by a high fence; and, if there be a desire to make the establishment quite complete, there may be built around this yard a range of buildings for poultry, pigs, &c., and open sheds for wagons and carts. Such a range of buildings we shall present at some future time.

This stable is built of wood, and covered with vertical boarding and battens; the roof is covered with slate; the doors all have simple hoods as well as the windows, and the glass for the latter, we would have set in diamond-shaped panes, which, at a little or no extra expense, heightens wonderfully the artistic effect of such a building as this.

Paint the building a warm cream color, the eaves, and window-trimmings, and doors considerably darker; plant a good many trees around it, and set a flowering vine here and there, so as it may run along its walls; take good care of the grass, and keep the drive-way well rolled and clear of weeds, and then we think the effect of the whole will be rather pleasing than otherwise.

This stable will cost at present prices about 1,200 dollars.

RAISING GRAPE VINES FROM SEEDS.

BY A. J. CAYWOOD, POUGHKEEPSIE, N. Y.

MR. MERRICK, in his interesting article on "Grapes in '65," in your February number, asks for information in relation to expediting the germination of grape seeds. When I came to this, my mind recurred to my labors for the past sixteen years, in trying to discover some of the enjoyments and luxuries by Nature hidden, but designed to be revealed in time, as necessity demands.

The lawyer says he wants the worst of his client's case first, and I would hint to Mr. Merrick that his chances of failure are far greater than those of success.

All those who would produce valuable varieties of fruit must expect many disappointments, unless there is a more perfect system of hybridization discovered. I think I have tried all the approved modes of

fertilization, and from the thousands of vines I have raised, many of which I have not abandoned until they were five years old, only two are considered valuable. One is a hybrid of the Diana and Delaware; the other was raised from Concord seed, not hybridized, at least by any effort of mine.

You may call this poor luck, but I think all others who have experimented with grape seeds extensively have shared the same fate, Mr. Rogers being an exception. I am well aware that, in some cases, good varieties have been produced by the first attempt at crossing; and the process has been continued by the same person for years without obtaining another. I suppose this want of success is the result of many causes. The incongruity which may exist between two of the strongest varieties might lead to degeneracy—the pollen of one flower being in a more advanced stage than that of the other; one being naturally stronger than the other; earliness and lateness; the difference in form of flower or fruit: and other differences in the same family. The effect we can see; but why crossing in the vegetable kingdom tends to retrogradation we cannot fully explain. It is barely possible that from a single seed, planted without any pretensions to hybridization, might be produced a better variety than any we now have; while thousands might be hybridized, and all prove worthless. By this, you will perceive that I do not fully believe the doctrine that the blossoms of the grape cannot be fertilized unless it is done scientifically. We have now, in several instances, the characteristics of two distinct varieties, so completely blended in the chance seedling, that it is no longer a question whether they may become hybridized naturally. If Mr. Rogers should succeed in the future as he has in the past, I will conclude that there is not so much uncertainty about grape seedlings after all, and that he has discovered a more certain method of hybridizing.

It is not my design in the foregoing to discourage Mr. M. in the planting of seeds;

on the contrary, I would advise him, as I have others, to do it. If all who own land should devote two feet square to seedlings, we would, in a few years, have what the present efforts would not bring us in as many centuries. Although the prospect would not be flattering to the individual, the general effect would be great. Whoever, by his indefatigable energy, develops some of the good things now in waiting, confers a lasting benefit on mankind.—Downing, Kirtland, Wilson, Hovey, Bull, Allen, Rogers, Wilder, Grant, Brinkle, Van Mons, Rivers, Le Roy, and a host of others in Europe and America, will be looked upon by future generations as benefactors of their race. I have concluded at several different times to save no more seeds; but, when the grape season came, I, irresistibly, would prepare a few more for the next spring's planting.

I have derived much pleasure from watching their growth and development. It is a game of chance, which all may play at, and do no violence to the moral law; a recreation attended with novelty and hope, which well pays its way, even if the goal is never reached.

To Mr. M. I would say, grape seeds should be put in earth in a pot or box, immediately on being taken from the fruit, and the vessel buried one or two inches from the surface, in order that they may be frozen during winter. A box should then be prepared, of suitable size, ten or twelve inches deep, placed in a hot or cold glass-house, and filled with soil properly prepared, within three inches of the top.—About the 1st of April, the contents of the pot, seeds and earth, should be evenly spread over the surface, after having been well mixed. Over all, a quarter of an inch of good soil should be sifted, being careful to exclude the earth-worms, as they will destroy a portion, if not all, of the young plants. This may be done by taking the earth from the surface as it begins to thaw in the spring, the worms being below the frost; or sift the earth if later in the

season. A portion of the young plants will damp off. If they should yet be too thick, thin out the smaller ones, not allowing them to be crowded. When they strike the third leaf, those taken out may be replanted; the vines remaining in the box will make from three to fifteen feet the first summer. Those grown out doors will seldom ripen any buds before the early frost kills them; they may also be successfully grown in hotbeds. Some seedlings will bear at the age of three years, but many more will not until four. As soon as the cluster of blossoms is sent forth, and before the cap of each little flower falls, its gender can be easily decided. I say gender, as we here call the non-bearing vines males.

The peduncle of the fruitless vines is very

small, not larger than a cambric needle; clusters very large, and highly perfumed. You must not expect to see grapes on a cluster of this description. When the cap bursts, a small yellow knot will appear where there should be a grape. The entire cluster will fall, and the vine might as well be destroyed. If it does not bear the first time it blossoms, it will never bear after. The cap may be removed, and its character ascertained, a week before the young grape would be sufficiently developed to throw it off.

Now, Messrs. Editors, I hope you will not think these unclassified jottings the communication I have long promised you on this subject, but will try at some future time to redeem my promise.

DESIGN FOR A HOUSE FOR DRYING FRUITS.

BY. J. C. HOBSON, CARDINGTON, OHIO.

THE following sketch is of a building of moderate dimensions, 4x12 feet, and five feet in height, set upon a wall of brick or stone twenty inches high; and, to obviate the necessity of going inside when heated up for drying, it is constructed with two tiers of drawers on either side, 23 inches by 5 feet, with slat or wire bottoms each

one made to slide in and out independent of the rest, and each tier enclosed with double doors. The building is heated by means of furnaces extending from either end, and communicating with the flue in the centre.

By reason of the drawers meeting over the furnaces in the middle, the heat in rising

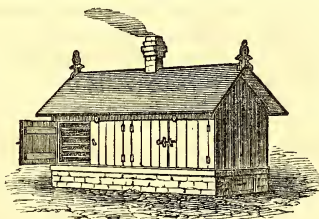


FIG. 72.—*Drying House.*

is compelled to pass through them, thus the fruit is dried faster than by the usual mode of placing it on shelves against the wall of the house.

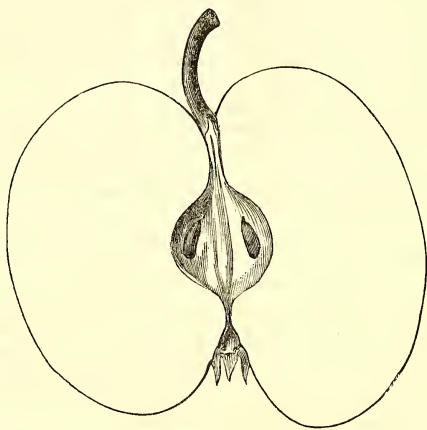
The number of drawers may be increased to double the amount represented in the drawing if necessary, which would make

them hold a considerable quantity of fruit, say from twenty to thirty bushels.

The building should be constructed of light timber, may be weather-boarded horizontally or vertically, and made ornamental or otherwise, according to the taste of the owner.

HEARTS' PIPPIN.

SOME years since, the writer received this variety from Charles Downing, Esq. It is not of the highest flavor as an eating apple, but the flesh is very tender, of a pleasant, mild, sub-acid taste, and cooks among the best. The tree is a good bearer. We find no published description of it, except in the *Western Fruit Book*. Fruit, medium size, roundish, flattened at ends, oblique. Color, pale yellow.

FIG. 73.—*Hearts' Pippin*.

low, with suffused shades of whitish yellow, and a faint blush cheek in the sun.—Flesh, white, very tender, juicy. Core, medium, or below. Season, November. Stem medium, generally curved. Cavity, regular, russetted. Calyx with five dis-

tinct, erect, open segments. Basin, deep. Flesh, white, very tender, juicy. Core, medium, or below. Season, November.

PROTECTION OF PEACH TREES IN WINTER.

BY JOHN H. JENKINS.

WE must resort to some protecting system for peach culture, or be disappointed, year after year, by late spring frosts—at least, such has been our situation. For four years, our peach crop has been smitten by May frosts; and, if we do not grow our trees in the future so that we may protect the buds from hard winter freezing and late spring frosts, we may expect nothing but disappointment for the next four hundred years.

The system is simply as follows:—Buy only the best trees, one year from the bud, and if they haven't low heads, cut back to 18 or 20 inches from the ground, as shown in Fig. 74. Plant the tree, in good soil, of

course, mixing with the soil one-half bushel of leached ashes to each tree. Let no stock run in the orchard without the trees are enclosed. The first Fall after planting the tree ought to appear as shown in Fig. 75. The winter preceding the second spring, make, or have made, or go to the woods and cut them, a lot of stakes made from boards $2\frac{1}{2}$ to 3 inches wide, and 3, $3\frac{1}{2}$ to 4 feet

long, sharpened at one end, and with an inch hole inclining at a small angle near the upper end; drive in a strong pin, and you have them made. We will suppose the tree has made from three to five strong side-branches the first summer, within 20 inches from the ground, and has sent up a strong leader.— We commence this the second spring with our horizontal training, by bending down



FIG. 74.



FIG. 75.

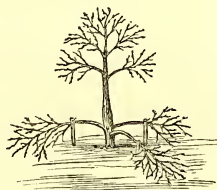


FIG. 76.

each side-branch, and securing it at about two feet from the ground with these stakes. The tree has then the appearance of Fig. 76. Of course we cut back, to form the tree to suit our taste, and cut out unnecessary limbs. We let the tree grow, keeping the worms away, hoping to have a good growth by Fall.

The next summer we may expect some fruit—a pretty good crop, provided we insure the life of the buds. Sometime in November, or before hard freezing, we bend down the side branches, so that they will rest on the ground, and secure them by driving down another stake near the end of the branches, and cover entire with soil,



FIG. 77.

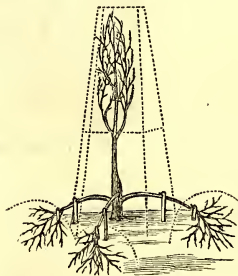


FIG. 78.

say from 1 foot to 15 inches deep, owing to the climate, of course. Then crowd the leader with its branches into a long box, resting on four legs, according to Mr. Palmer's plan; or, what is cheaper and as good,

make straw bands, twisted, and wrap closely around the leader, drawing in the side branches as you proceed, until it resembles Figure 77. Figure 78 represents the tree the winter of the second year, the dotted lines

over the branches showing the earth; the dotted lines over the leader shows the box. Allow the tree to remain in this situation until the middle of April, or thereabouts, when the soil is to be removed from the branches, and the second stake pulled up.—

The branches will then rise, and be about three feet from the ground; remove the box or straw from the leader; the tree will then bloom so late as to insure the fruit crop.

East Bethlehem, Washington Co., Pa.

PLAN FOR LAYING-OUT A SQUARE ACRE LOT.

BY E. FERRAND, DETROIT, MICH.

THIS garden contains everything that can conveniently be established on an acre lot. The stables and out-buildings are separated from the main place by two gates; one, M, opens the way to the dwelling; and the other, N, leads into the garden. There is a passage, O, to the street, entirely hidden by the thicket alongside of it, so that hay,

manure, &c., may be taken in and out without interfering at all with the cleanliness of the place. The shrubbery has been so disposed as to conceal the limited dimensions of the place. The greenhouse is conveniently situated near to the house, and a view of it is afforded from the street. The walks around the kitchen garden are plant-

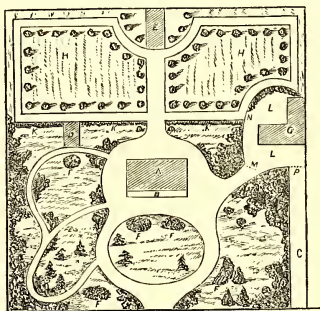


FIG. 79.—*Plan of Square Acre Lot.*

- A Dwelling.
- B Piazza.
- C Stable, Barn, and other Out-Buildings.
- D Greenhouse.
- E Graperies (house).
- F Flower-beds.

- H Kitchen Garden, with dwarf fruit trees and small fruits.
- K Trellis of Grape-Vines.
- L Yard.
- M Gate.
- N Gate.
- O Passage from the Barn to the Street.

ed with dwarf fruit trees, and the space devoted to that garden is sufficiently large to provide a family with the usual vegetables and small fruits. There is a vinery, E, and a trellis of native grapes separating the ornamental from the vegetable grounds. The

yard, L, is shut by the gates M and N, and at the entrance of passage O on the street, so that horses or other animals may be let loose in that yard without fear of their running away, or through the garden.

WHARTON'S EARLY PEAR.

THIS pear was distributed many years since by that zealous horticulturist, A. H. Ernst of Cincinnati, but since his death, little or nothing has been heard of it. Can Mr. Downing, or Wilder, etc., tell us aught of it? Here is an outline of it.

FIG. 79.—*Wharton's Early Pear.*

The tree is described as a strong, healthy grower; the fruit above medium; yellowish green, with more or less of russet, and flesh melting, juicy, sweet and high-flavored; bearing well, and ripening middle of August.

MARGARET PEAR.

IN our March number we gave an illustration and description of one—"Mary"—of two new pears originated with Mr. Christopher Wiegel, Cleveland, Ohio. We now give outline, figure and description of number two, which he desires named *Margaret*.

Its history is the same as Mary's, and given in our March number.

DESCRIPTION.—*Size*, medium. *Form*, oblong, ovate. *Stem*, one to one and a half inches; straight; inserted without depression. *Calyx*, large, open, with long, reflexed

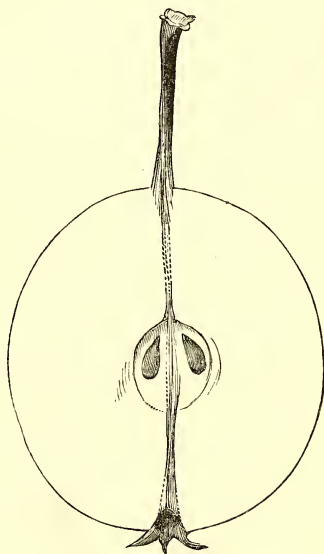


FIG. 80.—*Margaret Pear*.

segments; without basin, but irregular, uneven surface surrounding. *Color*, lemon-yellow ground, when fully ripe; mostly overspread with deep, dull-red. small russet dots, with occasional small russet marblings and patches of russet; where the surface is

not reddened the dots appear green underneath the skin. *Flesh*, white, finely granulated, juicy, vinous, sweet, and free from astringency. *Core*, small. *Seeds*, dark brown. Season, last of July, and early August.

NOTES ON THE APRIL NUMBER.

THE ENEMY.—Come, come, good editors, you must not lay all the blame of a scarcity of apples on the codling moth, forsooth.—Because, as you say, apples are dearer in New York market than oranges, must it all be attributable to the depredations of insects? Stop a minute. You say New Jersey was once famous for its fine fruit, but now for its *want* of fine fruit. I am not a Jerseyman, but I have had some whole-souled friends in that State, and I feel like, in a short way, taking up the cudgel in her behalf, and say, therefore, that you are perhaps mistaken, and your enthusiasm for once has led you to erroneous conclusions. I may not say that New Jersey has produced *perfect* apples this past year, but I may say that you are making surprising assertions. In, say, 1832, and onward to 1840, very few perfect apples were grown in the New England States, but the past year their apples have been more perfect than in New Jersey, or onward to Ohio. Michigan, as yet, and the Canadas, are comparatively clear of the codling moth, and their fruits have this year commanded prices over the above-named intermediate space. Now, while I shall go with you heart and hand toward perfect extinction of the insects, and would urge, as you do, “the importance of prompt and energetic action towards the destructipn of the apple moth, and all other insects injurious to the horticulturist,” I cannot agree with your prophetic vision, “that of no fruit will we ever have an abundance, but with each year an increasing scarcity.” I have looked carefully over fruit-growing more than forty years, and find that occasional seasons occur of adversity in the products of the earth, to be followed soon, if not directly after, with profuse abundance. I will, therefore, as an offset against your prophesy, say that I believe the coming year will be one of great abundance in product of the apple and pear, and that, as a feature, there

will be less injury from insect depredations than for several years past.

I am with you in urging attention of fruit-growers to the study and habits of insect life, that they may the better know how to protect their own interests, for it is the interest of every fruit-grower to ripen as perfect a crop as possible; and the more he knows of the soil, the habits of the tree and of the insect, and diseases attendant upon tree and fruit, the better is he enabled to guide his labors toward profitable results.

DESIGNS IN RURAL ARCHITECTURE—No. 13.—In certain locations, I think that, architecturally, the appearance of this cottage would be very pretty. Its effect on paper is certainly good, and there does not appear any useless ornamentation; yet most who build at a cost of \$1,800 to \$2,000 look for more room, and the rooms of larger size than are here portrayed. I think the house could be spread out on ground plan, and thus improved, at a comparatively trifling cost.

MILDEW AND GRAPE CULTURE.—Mr. Saunders is a man so conversant with grapes, and withal so observing, that it is hardly to be expected he can err—but “ain the best aft gang alee,” and I may be permitted to record, that while measurably agreeing with his convictions, that “atmospheric influence is the cause of mildew,” I cannot submit to the covered trellis; because I have seen mildew underneath it; and also abundantly on vines covering trees.

DIAGONAL TRAINING IN VINEYARD CULTURE, No. 2.—With the writers opposition to “stopping and pinching in,” *i. e.*, severe summer pruning, I fully agree, and believe that more of injury than good to our native grape vines has been caused by following old country dogmas in regard to this practice: The distance apart of vines I however think is not sufficient, unless it may be such varieties as Delaware, Rebecca, etc. If we

may judge from all our readings the advantage to the grower is obtained by placing his strong-growing vines, as Concord, etc., at distances of eight or more feet apart, rather than at less than six feet, as here advised.

ABBOT PEAR.—I am glad to see this good, and handsome pear brought again into notice. I have grown most beautiful, as well as good fruit of it; and were it not for one single fault, viz., that of ripening up too fast, it would be one of the most desirable in all choice collections.

MASTEN'S SEEDLING APPLE.—Judging from the description, this must be a most remarkable apple, but perhaps a little too large, and open core. I should like much to see the fruit, and must write Mr. Masten at proper season for samples.

CLEFT GRAFTING.—A timely article, wherein the writer has remembered that all the readers of the HORTICULTURIST are not experienced in all the practical arts of which its pages treat. I would add, that the old practice of using grafting clay as a wrap over the tie of grafting wax is good as a preventative to drying.

REPORT ON GRAPES IN MISSOURI—1865.—A most valuable record! I am a little surprised at the conduct of Anna and Cuyahoga, for I have been impressed with an idea that they would prove valuable in

Missouri. I would like to ask Mr. Husmann, of whom he procured the *Martha*, as I suspect there are two grapes sent out under this name. Again, I would like to ask, if Mr. H. has Rogers No. 3—and if so, what observations he made on that. I have a belief that it will make a fine wine, and tolerable table grape for his section.

GARDENS AND PARKS OF GERMANY.—All travelers over the section traversed by this writer, join in their praise of the roads, and road-side trees. The example of planting fruit trees by the road side has been advised in this country, and while we acknowledge its beauty and usefulness, we are and perhaps ever will be, a too roving and restless people, with too many regardless of laws or property to make the practice desirable.

As we now are, these very peasants, who so carefully respect the ownership of these road-side-trees in Germany, no sooner arrive here than their first onslaught is on any and all property not protected by fence, dog, etc.

Time perhaps, will be when it may be advisable and safe to plant fruit trees on road-sides, but at this stage of our progress I think we had best stick to our elms, maples, etc., for our street shades.

REUBEN.

HORTICULTURAL MATTERS AT THE HAWAIIAN ISLANDS.

FROM OUR OWN CORRESPONDENT.

In the tropical regions, the vegetation is always of a greener and fresher verdure, the foliage more luxuriant, and the leaves more beautiful in shape and texture, than in your Northern climates—even in the summer months—for the varieties are more numerous, and each possessing some marked and peculiar character, interesting to the botanist and tourist, and every true lover of nature. The frequent, light showers of rain, which occur almost daily, in the warm latitudes, seem a wise dispensation of that over ruling Providence for the beauty and

preservation of the foliage, and vegetation, which otherwise would scorch and dry up under the hot rays of the sun.

There are a large variety of flowering trees and shrubs in and about Honolulu, of every size and shade of foliage, beautiful and attractive to the eye of every tourist who visits the islands, a description of which, botanically arranged and classified, I will endeavor to give you from time to time, as my health may permit. Among them are some indigenous to the country, and others, exotic in character, which have

been brought here by the early settlers, or introduced through the efforts of the Royal Hawaiian Agricultural Society, by Dr. Hildebrand, who is now in China.

The ostensible object of Dr. Hildebrand's mission to China and India, where he has been since last summer, was to obtain suitable laborers for the plantations, having received the appointment of Royal Commissioner of Immigration. The Royal Hawaiian Agricultural Society, to improve so valuable an opportunity, at the same time, made an appropriation of \$500, for the purpose of providing, through Dr. H., seeds, plants, shrubs, and fruit-bearing shrubs and trees of every description that are natives of China and India, and that have not already been introduced to the islands. From his thorough knowledge of botany and the sciences, as well as general information concerning packing and shipping plants, no one is better fitted for the important mission. There is every reason to believe, that by the liberal encouragement of the Hawaiian Agricultural Society, the mission will result in vast good to the islands, and by the exertions of Dr. H., a large and valuable collection of hitherto unknown plants and shrubs, and spice growing plants, and trees and fruits may find their way to these islands, where there are abundant tracts of fertile soil, suitable to their culture and growth, on an advantageous and beneficial scale, and their products in time be reckoned among the future resources of *Hawaii nei*!

Among the many beautiful trees I have seen, in the gardens, is one, in size and shape about the same as your Northern apple-trees, covered with beautiful foliage, very ornamental, and adorned with large, magnificent flowers—showy as some of your lilies. The seed pods are from six to eight inches long, of a rich dark brown color, and filled with seeds. I have procured some of these, which I shall send with the other collection I have made, and may make, to the New York State Agricultural Society. The tree would thrive well in any locality, I think, where the magnolia would flourish.

I shall be pleased to hear of its successful culture in your State.

There is also a species of Acacia tree, which bears a seed pod, long as your arm, and very tough and woody. They are quite a curiosity even here, and I shall try and send you one or two the first convenient opportunity.

In the beautiful, almost paradisaical gardens of Dr. Hildebrand, and Judge Montgomery, President of the Royal Hawaiian Agricultural Society, may be seen hundreds of tropical trees, and shrubs, and vines, rich in foliage and bloom, growing luxuriantly, and in other and future letters, I may tell you what I have seen in my walks among the shady avenues and groves, around the trim beds, covered with a thousand gaudy and beautiful flowers, and in the wilderness of luxuriance of those charming Edens of Honolulu.

It is a matter of regret that the Royal Hawaiian Agricultural Society is at present in such a dormant state, owing to a want of proper interest and attention to the promotion of agriculture at the Hawaiian Islands. Sugar has been and is the great staple commodity, and the great trouble has been a disease called "*Sugar on the Brain.*"

The climate is unsurpassed, and the soil rich and fertile, and there is an ample field of encouragement for the horticulturist and agriculturist. The Agricultural Society, it is hoped, will again rise to view, where such a broad field is open for their glorious work. Fairs should be held annually, and meetings held for the discussion of various themes, and to report experiments. As civilization advances, agriculture should keep pace, and where *Nature* has done so much, man should certainly improve and cultivate, and the avenues of improvement should be opened wider and wider, that all who choose might enter in and study and enjoy. A department of agriculture here should be an obligation of government, and be fostered and protected, for upon this important arm, as is well known, depends in a great measure the weal or woe of any civilized country.

HONOLULU S. I. Nov. 1865.

MY NEIGHBOR AND HIS GUN.

BY A. S. F.

CRACK! goes my neighbor's gun, and another sweet song-bird comes fluttering to the ground; and what for? Is it because the little songster has been in mischief? Has it been pilfering some stray head of rye, or a few grains of buckwheat? More likely neither, but probably it was searching for the eggs of the tent-worm on that apple-tree from which it fell.

Shall I call my neighbor a wretch for killing these innocent birds? It is certainly a wretched habit that some otherwise good people possess.

Why should these little pet friends of mine be killed? They are guilty of no crime, and how faithfully they work to bless mankind. How that gentle shower, in a warm spring day, opens their throats to warble forth the melody that should find an echo in every heart.

Sing and be happy, little birds, for thy Creator is also mine, and I know not which is most acceptable to Him—thy song or mine.

How few of those little friends do I meet when strolling in those grand old woods down by the side of Spring Creek.

Here are trees in which to build their nests; they are tall, and their thickly-woven branches would protect them from intrusive eyes. Here are deep, low vales, with a dense undergrowth—a fine cover for partridge and quail; yes, methinks a thrush might find a retreat here, and there is a lofty oak on which she might pour forth her song far above the surrounding trees.

I know she loves these high wood-marks for song, although she builds her nest so low. Why do I not hear her song? The day is fine, and it's the time of year for her sweetest note.

Where is the redbreast? No song from her this fine spring morn. 'Tis strange that not even the tat-too of the woodpecker or a note from the che-weep breaks the stillness of the fine old woods.

I hear no sound from yonder meadow. Where is the meadow lark and bob-o'-link which have so often given forth their quaint song as they floated from fence to tree.

Is all nature dead, or asleep—which? Let us listen. There is a sound—a low buzzing which we hear through field and forest. It sounds like a coming storm, but it is not one that will refresh the drooping foliage of tree or shrub, for it is a storming host of insect-invaders.

The winged progenitor of the apple-worm is already dropping its eggs among the blossoms. The enemies of the pear, cherry and plum are among this invading host, and the rose, with all its beauty and fragrance, shall also perish, for I can hear the whetting of mandibles for its destruction. Shall these destroyers go on to their work of devastation without a check? Alas! we cannot stay their progress, for my neighbor's gun has either killed or frightened away my swift-winged friends who have ever faithfully beaten back the invading army from year to year.

Shall I expostulate with my neighbor and kindly request him to spare the birds? I have often done so, but he replies: "the law does not forbid it." He professes to be a Christian, and strongly orthodox, so I appeal to his Christianity. He replies that he is not forbidden to kill birds by the Ten Commandments. At last, in despair, I say: "A fig for your law or dogmas; have you no love for the little pets of your Creator?" "Most certainly he has, for he *loves to eat* them; a dozen robins," he says, "will make a fine pot-pie."

This morning, before the sun had shown his face, my neighbor was tramping to the woods, with gun across his shoulder, and a well-filled shot-pouch by his side. At noon I saw him coming home, and I ventured to say: "What luck, neighbor?" "Fine," replied he; "I got a splendid grey squirrel."

What a magnificent half-day's work for a farmer, whose land yields but ten bushels of rye per acre, because he has no time to haul out muck to enrich it, or to subsoil his shallow cultivated fields.

What a fine example he is setting for his son. I pray that he may not follow in the footsteps of his murderous predecessor.

Many and long are the black marks which I have scored against that neighbor of mine. There is a long mark under the word *squirrel*, and it brings to mind four little chattering pets, for whom I have cracked many a handful of nuts on a cold winter day, and placed at the root of the hickory tree they often visited. Then, listening, I thought I could hear them chatter their thanks for such a tree that gave them cracked nuts in winter. But one fine morning, crack!

crack! crack! went my neighbor's gun, and now there is but one of my little pets that visits the hickory tree.

Where are those six chubby little quails that came every morning for the little handful of wheat I tossed them, or to pick up the grass seed scattered in the barnyard, and all through the day I could see them running through the shrubbery, picking out the seeds from the weeds which had been carelessly left to mature.

My neighbor's gun told the tale. One fine morning and my little quails came no more for their handfull of wheat.

Dark as the score is against my neighbor, there are others as guilty as he, and may their Creator forgive them, for I cannot.

WOODSIDE, N. J.

POTS SHOULD BE DRAINED.

BY JAMES COWAN.

OBSERVING in the last *HORTICULTURIST* another article, by our highly esteemed friend, Mr. Henderson, headed "Should Plants be Crooked," I beg leave, most respectfully to answer his modest question, by saying that plants should not only be "crooked," but all pots in which they grow should be thoroughly drained, it being, in my opinion, absolutely necessary to insure the specimen-grower complete success.

Mr. H. also remarks that it is not the pieces of broken pots and charcoal placed at the bottom of the pot that causes my success in plant-growing. I can assure him that it has a great deal to do with it. He must remember that there is great virtue in charcoal and broken pots; for such materials, together with a little moss, form a thorough drainage. After that, the plant requires careful watering, but not so much so as one that has no drainage.

It is my firm opinion that all tropical plants should have the very same treatment

as to drainage, with the exception of aquatics.

Mr. Henderson has had extensive practice in growing hard-wooded plants, as well as florists flowers, in Jersey City, but he has dispensed with the former, because they did not pay. I really believe it; for it is quite absurd to attempt to grow hard-wooded specimens without thoroughly drained pots. Mr. Buist, of Philadelphia, says in his book every now and then "drain your pots thoroughly."

Mr. H. advised me to place a thorough drained pot, say 8-inch or so, on the bare boards of the stage. I have done so; and find, by experience, that more than one-half of the water runs out, and at the same time can be seen air bubbles, as the water passes through the soil. Frequent watering carries down the gas of which the air is composed, to feed the roots of plants. These bubbles could not be seen if there were no holes in the bottom of pots.

Mr. H. argues that pots with drainage deprive the plants of so much earth to feed upon. I maintain that such plants should have larger pots, as I am led to believe that the most useful roots of plants are near the surface, where they can have a liberal supply of atmospheric air, which is most beneficial to their growth. I maintain, also, that the same law holds good in the case of pots, as well as in the draining of land.

Allow me to make a few extracts from Johnston's Elements of Agriculture:

"The advantages that result from draining are manifold. The presence of too much water in the soil keeps it constantly cold. The heat of the sun's rays, which is intended by Nature to warm the land, is expended in evaporating the water from its surface, and thus the plants never experience that genial warmth about their roots, which so much favors their rapid growth, where too much water is present in the soil; also, that food of the plant which the soil sup-

plies is so much diluted, that either a much greater quantity of fluid must be taken in by the roots, much more work done by them, that is, or the plant will be scantily nourished.

"The access of air is essential to the fertility of the soil, and to the healthy growth of most of our cultivated crops."

"The insertion of drains not only makes room for the air to enter, by removing the water, but actually compels the air to penetrate into the under parts of the soil, and renews it at every successive fall of rain. Open such outlets for the water below, and as it sinks and trickles away, it will suck the air after it, and draw it into the pores of the soil wherever itself has been."

I have made the above extracts to show Mr. Henderson the necessity of draining, and the benefit plants derive from it.

I appeal to the gardening community to express their views in the matter, as this will be my last on this subject.

FOWLS AROUND A COUNTRY HOME.

BY F. R. E.

THE advantages and pleasing associations derived by having a cow and pig as part and parcel of the ruralist's homestead, have been portrayed by an able writer in the pages of this Magazine, and while he may gain all the favor of the men on his side in so advising, I think I will have the approval of the women, in asserting that the poultry yard should be attached to every home where half an acre of ground makes part and parcel thereof.

The advantages of fresh eggs—of having a fine fat bird to kill, when wanted,—together with the cheerful and life-like character given by the loud and shrill crow of the cock as he rolls out defiance to all the world in defence of his harem of full breasted, well-formed hens, decked in their flaunting garbs of colors, ranging from pure white, to sober shades of gray and brown, with perhaps an occasional sprinkling of black, are apparent to every housekeeper. Although a Horti-

culturist, with flowers and fruits around me, and where hens delight to bask, sun themselves and scratch, to the often annoyance of a lover of neat kept flower-borders, or an enthusiast in examining and testing some new strawberry, etc., yet after years of housekeeping, I could no more keep house without my Speckled Dorking fowls around me than without my flowers and fruits.

I name Speckled Dorkings, because having once had a regular course of the "Chicken fever," during which I paid fancy prices for Brahma Pootras, Buff, White and Black, Shanghaes, etc., etc., and tried nearly every breed of poultry, I have settled back to my first impression, viz: that taking all in all, the best breed of fowls is the Speckled or Colored Dorking. They are hardy, are good layers—do not roam or wander from their immediate roosting house as far as most other breeds, their eggs are more than medium size, the chicks come to a size fit for

the table sooner than any other breed, and when dressed are full, plump, and round in form, and, corresponding with their age, weigh more clear meat and less bone. I have, this past autumn, killed and dressed birds not quite four months old, that weighed four and one-half pounds after being thoroughly drawn.

As I have said, I could not keep house without having fowls around me, and this, I believe, would be the saying of nearly every country resident; yet how few think

of the difference in value that might yearly be added by the keeping of some pure and well-formed breed of fowls, over the common dung-hill mixture so generally found, and that cost just as much to feed, but when dressed and weighed only weigh one-half to one third as much. The raiser of only fifty chickens a year will have gained nearly one hundred and fifty pounds of clear white meat, to say nothing of the pleasure derived from showing a flock of birds creditable to appreciative intelligence.

RUSKIN'S CLOUD AND TORRENT.

THE most remarkable quality, perhaps, in Mr. Ruskin is his pure and earnest love of nature. Herein lies the charm of his works, which are so familiar to many of our readers. To this may be traced the main virtue there is in them, and the main utility they possess. They will send the painter more than ever to the study of nature, and perhaps they will have a still more beneficial effect on the art by sending the critic of painting to the same school.

Mr. Ruskin, in his love for Nature, brings forward and displays the palpable facts of Nature—the sky, the sea, the earth, the foliage, the clouds—which the painter has to represent. His descriptions are sometimes made somewhat indistinct by an exuberance of words; but there is a light in the haze—there is a genuine love and appreciation of Nature felt through them. And this is the essential point of sympathy, we take it, between Ruskin and his readers. We will illustrate this love of Nature by quoting a specimen or two of his happiest descriptions. We begin with the *Cloud*, and our readers will confess that their first feeling, after the perusal, will be an irresistible impulse to throw open the window, and look upon the clouds again as they roll through the sky.

“It is to be remembered that, although clouds of course arrange themselves more or less in broad masses, with a light side

and a dark side, both their light and shade are invariably composed of a series of divided masses, each of which has in its outline as much variety and character as the great outline of the cloud; presenting, therefore, a thousand times repeated, all that I have described as the general form. Nor are these multitudinous divisions of a truth of slight importance in the character of sky, for they are dependent on, and illustrative of, a quality which is usually in a great degree overlooked—the enormous retiring spaces of solid clouds. Between the illuminated edge of a heaped cloud and that part of its body which turns into shadow, there will generally be a clear distance of several miles—more or less, of course, according to the general size of the cloud; but in such large masses as Poussin and others of the old masters, which occupy the fourth or fifth of the visible sky, the clear illuminated breadth of vapor, from the edge to the shadow, involves at least the distance of five or six miles. We are little apt, in watching the changes of a mountainous range of cloud, to reflect that the masses of vapor which compose it are huger and higher than any mountain-range of the earth; and the distance between mass and mass are not yards of air, traversed in an instant by the flying form, but valleys of changing atmosphere leagues over; that the slow motion of ascending curves which we

can scarcely trace, is a boiling energy of exulting vapor rushing into the heaven a thousand feet in a minute; and that the toppling angle whose sharp edge almost escapes notice in the multitudinous forms around it, is a nodding precipice of storms three thousand feet from base to summit. It is not until we have actually compared the forms of the sky with the hill-ranges of the earth, and seen the soaring alp overtopped and buried in one surge of the sky, that we begin to conceive or appreciate the colossal scale of the phenomena of the latter. But of this there can be no doubt in the mind of any one accustomed to trace the forms of cloud among hill ranges—as it is there a demonstrable and evident fact—that the space of vapor visibly extended over an ordinarily clouded sky, is not less, from the point nearest to the observer to the horizon, than twenty leagues; that the size of every mass of separate form, if it be at all largely divided, is to be expressed in terms of *miles*; and that every boiling heap of illuminated mist in the nearer sky is an enormous mountain, fifteen or twenty thousand feet in height, six or seven miles in illuminated surface, furrowed by a thousand colossal ravines, torn by local tempests into peaks and promontories, and changing its features with the majestic velocity of a volcano.”

The forms of clouds, it seems, are worth studying, and their study will richly repay the lover of nature. After reading this, no landscape painter will be disposed, with hasty slight invention, or with careless observation, to sketch these “mountains” of the sky. Let us see what he says of water, first of a falling stream, and then of running water:

“A little crumbling white or lightly-rubbed paper will soon give the effect of indiscriminate foam; but Nature gives more than foam—she shows, beneath it and through it, a peculiar character of exquisitely-studied form bestowed on every wave and line of fall; it is this variety of definite character which Turner always aims at,

rejecting as much as possible everything that conceals or overwhelms it. Thus in the upper Fall of the Tees, though the whole basin of the fall is blue, and dim with the rising vapor, yet the attention of the spectator is chiefly directed to the concentric zones and delicate curves of the falling water itself; and it is impossible to express with what exquisite accuracy these are given. They are the characteristics of a powerful stream descending without impediment or break, but from a narrow channel, so as to expand as it falls. They are the constant form which such a stream assumes as it descends; and yet I think it would be difficult to point to another instance of their being rendered in art. You will find nothing even in the water-falls of our best painters, but springing lines of parabolic descent, and splashing and shapeless foam; and, in consequence, though they make you understand the swiftness of the water, they never let you feel the weight of it; the stream, in their hands, looks *active*, not *supine*, as if it leaped, not as if it fell. Now, water will leap a little way—it will leap down a weir or over a stone—but it *tumbles* over a high fall like this: and it is when we have lost the parabolic line, and arrived at the catenary—when we have lost the spring of the fall and arrived at the *plunge* of it—that we begin really to feel its weight and wildness. Where water takes its first leap from the top, it is cool and collected, and uninteresting and mathematical; but it is when it finds that it has got into a scrape, and has further to go than it thought for, that its character comes out; it is then that it begins to writhe, and twist, and to sweep out, zone after zone, in wilder stretching as it falls, and to send down the rocket-like, lance-pointed, whizzing shafts at its sides, sounding for the bottom. And it is this prostration, the hopeless abandonment of its ponderous power in the air, which is always peculiarly expressed by Turner.

When water, not in a very great body, runs in a rocky bed much interrupted by

hollows, so that it can rest every now and then in a pool as it goes along, it does not acquire a continuous velocity of motion. It pauses after every leap, and curdles about, and rests a little, and then goes on again; and if, in this comparatively tranquil and rational state of mind, it meets with any obstacles, as a rock or a stone, it parts on each side of it with a little bubbling foam, and goes round: if it comes to a stop in its bed it leaps it lightly, and then, after a little splashing at the bottom, stops again to take breath. But if its bed be on a continuous slope, not much interrupted by hollows, so that it cannot rest—or if its own mass be so increased by flood that its usual resting-places are not sufficient for it, but that it is perpetually pushed out of them by the following current, before it has had time to tranquilize itself—it of course gains velocity with every yard that it runs; the impetus got at one leap is carried to the credit of the next, until the whole stream becomes one mass of unchecked accelerating motion. Now, when water in this state comes to an obstacle, it does not part at it, but clears it like a race-horse; and when it comes to a hollow, it does not fill it up, and run out leisurely at the other side, but it rushes down into it, and comes up on the other side, as a ship into the hollow of the sea. Hence, the whole appearance of the bed of the stream is changed, and all the lines of the water altered in their nature. The quiet stream is a succession of leaps and pools; the leaps are light and springy,

and parabolic, and make a great deal of splashing when they tumble into the pool; then we have a space of quiet curling water, and another similar leap below. But the stream, when it has gained an impetus, takes the shape of its bed, never stops, is equally deep and equally swift everywhere, goes down into every hollow, not with a leap, but with a swing—not foaming nor splashing, but in the bending line of a strong sea-wave, and comes up again on the other side, over rock and ridge, with the ease of a bounding leopard. If it meet a rock three or four feet above the level of its bed, it will neither part nor foam, nor express any concern about the matter, but clear it in a smooth dome of water without apparent exertion, coming down again as smoothly on the other side, the whole surface of the surge being drawn into parallel lines by its extreme velocity, but foamless, except in places where the form of the bed opposes itself at some direct angle to the line of fall and causes a breaker; so that the whole river has the appearance of a deep and raging sea, with this only difference, that the torrent waves always break backwards, and sea waves forwards. Thus, then, in the water that has gained an impetus, we have the most exquisite arrangement of curved lines, perpetually changing from convex to concave, following every swell and hollow of the bed with their modulating grace, and all in unison of motion, presenting perhaps the most beautiful series of inorganic forms which nature can possibly produce.”

GLAZED vs. UNGLAZED FLOWER POTS.

BY S. REID, PITTSFIELD, MASS.

I HAVE had an article on the above topic partly in and half out of my head for some time, but your correspondent, “B. S.,” has taken all the thunder out of it. Well, thunder owes some of its impressiveness to echo; with echoes from them I will be contented.

The prejudice against glazed pots, we have had occasion to know, is very general.

Offer a lady a glazed pot, and she will reply, “I wish I could use them, they are so much nicer and so much easier kept clean; but everybody says plants will not do as well in them,” But who is this everybody? “O, I have asked Gen. A’s gardener, and Col. B’s gardener, and Judge C’s gardener, and they all say plants do much better in unglazed pots, and that you can

not hire a gardener who knows anything about his business to use a glazed pot. Is not this enough?"

Well, let it pass.

We like early tomatoes, and to gratify this liking, we usually start the plants in pots the last of February, and have them in full bloom, and sometimes further advanced, by the time the open ground is sufficiently warm and dry to receive them. For pots, we use such refuse ones as come conveniently to hand, some glazed, some unglazed. Now, we have noticed, for a series of at least four or five years, that the plants in the glazed pots uniformly make the largest and most healthy growth. We allow the gardeners experiments to be just as reliable as our own. But the results are contradictory. The experiments are just like those for which agricultural and horticultural societies are paying thousands of dollars annually, and the results are the same—a bundle of contradictions. And such will be the case so long as the *circumstances*, the *very hinges on which results turn*, are neglected. "Half the truth is generally a lie" is an old maxim, and experiments with half the circumstances omitted give a lying result. We tried our experiments in a dry, stove-heated room, the water applied only to the surface of the earth; the gardener his, in a green-house, the watering, principally, by sprinkling foliage, pots, benches, stools, &c., with tepid water.—The air of the house is kept loaded with moisture, so that there is but little, if any, evaporation from the surface of the pot.—The air is as ready to give moisture to the pot as to ask it. The pot is not wanted to hold water, but simply to hold the earth, and keep the plant right side up. A gauze pot, had it firmness enough to do this, would answer quite well, while a glazed one would defeat the prime object—a uniform heat and moisture through the whole concern.

Step now, sir, to the sitting-room of any ordinary family—a room warmed by a stove, perhaps a coal stove, the air, the furniture, carpet, and walls are as dry as a

piece of—anything you may please to compare them with. If a whiff of steam escape from any transient vessel of water, it is drunk up instantly. Bring into this room, a plant in an unglazed, a porous pot, having the earth well wet; evaporation from the surface of the pot instantly begins; and such is the rapidity with which it goes on, that it almost freezes the very earth in the pot—for all know, or ought to know, that evaporation is a freezing process; that it is not the melting, but the drying that carries off the heat. In a short time the earth in contact with the pot becomes dry. In watering, especial care is taken to give the outer edge of the earth its full share, yet it is soon dry; and, although we are cautioned against too frequent watering, yet the drooping leaf will remind us that its outer, its fibrous roots are thirsty.

The pot in the sitting-room has a very different office from its fellow in the green-house. It is to hold moisture as well as earth, and prevent evaporation with the consequent chilling of the roots of the plant. The plant needs its protection.—Give the plant language, and you would hear it say, "This air is a thirsty old fellow; I give him drink from the surface of every leaf, but he is not satisfied. He comes into my kitchen, takes the water in which I mix my food, and in getting away with it, puts out my fire, and leaves me cold and dry. He should be taught to know his place."

The whole matter, then, lies here: A healthy growth of the plant requires a certain degree of heat and moisture, and this kept as uniform as possible. In the green-house, with its usual attending circumstances, this is best secured by porous pots; in the sitting-room, under very different circumstances, by pots not porous.

We feel very confident that, for parlor use, the hard, non-porous pot will give a healthier growth of the plant, keep itself much more neat and cleanly, be more durable, and ask for less care in watering, thus combining economy, beauty, and comfort

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

ST. CATHARINES, C. W., 19 Jan. 1866.

MESSRS. GEO. E. & F. W. WOODWARD.

VARIOUS matters requiring my attention have prevented my replying to your favor of 16th November last, relative to my humble experience in the cultivation of the Grape. Although always an enthusiastic Horticulturist I have only of late years turned my attention to Grape Culture and I am pleased to find that it is attracting so much attention in the Horticultural World, it is in my opinion a most delightful and profitable employment and in a very few years there will be as many varieties of grapes as there now are of apples and pears, I speak with reference to hardy varieties, or what are so called. Look at what already has been accomplished! Many can remember when the Isabella was the only grape cultivated and was considered the ne plus ultra of perfection, and now what a variety of Grape vines are offered for sale in every catalogue we take up, and I firmly believe that grape culture is only in its infancy in this country and that its cultivation is destined to be of great importance in the manufacture of native wine which is already attracting much attention. I have often been much amused at the elaborate articles, appearing from time to time in the different periodicals, relative to the management of grape vines, the necessary pruning required and the requisite ingredients to form a suitable soil, a great deal of which in my opinion, is quite unnecessary for the successful cultivation of the grape; no doubt a certain degree of knowledge is desirable, but the conclusion I have arrived at is, that we should leave more to nature and less to art, and if we paid more attention to top-dressing and less to the number of carcasses deposited in our

grape quarters, we should hear less of rot and other diseases to which grapes are liable. By making our borders too rich we stimulate the vines to unnatural growth, and we make the matter worse by taking off this luxuriant wood, and destroying the vigor of the vine. I notice in your December number that one of your correspondents, D. W. Adams, of Waukon, Alamakee county, Iowa, quite agrees with me, he says very pertinently "that the better they are treated, the worse they are diseased"—this subject I should like to see well discussed in your columns. I have been fortunate so far as rot is concerned, the only varieties on which I have seen it are the Curtis or Stetson's Hybrid (an early black grape similar to Blood's Black), badly touched, and Perkins and Concord slightly, Delaware also showed symptoms of the disease in a few berries. I much fear that under our present (in my opinion) erroneous system of pruning and manuring we shall see much more of it every season. I will now give you a list of such grapes as I have tested, and of my vines, as to their adaptability to our soil and climate, and their season of ripening in this part of Canada; the soil and climate of which, is very similar, to that of your famous Grape Valley, with the advantage of having water on both sides within a few miles of us. St. Catharines is situated at the base of the same range of hills, that run through that beautiful section of country, and is well described as the Garden of Canada.

The varieties I have hitherto tested, are as follows viz: Delaware, Rebecca, Diana, Union Village, Clara, Allen's Hybrid, Cassidy, Elsingburgh, Ontario, Louisa, Isabella, Canadian Chief, Taylor or Bullit, Lenoir,

Logan, Concord, Anna, Perkins, Black Cluster, Pelham Seedling, Sécord, Catawba, Hartford Prolific, Curtis, Blood's Black, Tokalon, Rogers' 3, 4, 15, 19, 20, 33 and 41; I have also Lydia, Creveling, Worden's Seedling, Iona, Israella, Rogers 1, 2 and 9, Adirondac, Underhill's Seedling, Maxatawny, Cuyahoga, Alvey and some others whose names I do not remember, none of which are yet in bearing.

Of the above varieties Curtis, Blood's Black and Hartford Prolific and Rogers' number 3, ripen with us *the first week in September*, none of them are high flavored and are only valuable on account of their ripening early, the Curtis was badly affected with the rot; the next to ripen with us are Delaware, Logan, Allen's Hybrid, Concord, Rebecca, Elsingburg, Ontario, Alvey, Sécord Perkins and Rogers' 4, 15 and 19 *all ripening about the middle of September*.

The last to ripen here are Isabella, Diana, Louisa, Union Village and Rogers' number 1, *the first week in October*.

The question now arises which of the above numerous varieties would I recommend for cultivation. This must depend in a great measure on soil and climate, our soils are various from sand to heavy clay, the climate generally dry and on that account well adapted to the grape.

For an early grape I would take Hartford Prolific or Rogers' number 3, of the next in order to ripen, Delaware, Allen's Hybrid, Concord and Rogers' 4, 15 and 19; and I should still cling to our old favorite the Isabella, and, where it will ripen, the Diana, which will become one of our best varieties or wine in favorable localities. I made a wine from it last season for which I received a diploma and first prize at our Provincial exhibition, it requires, however a warm exposure and is then a very delicious grape, perfectly hardy, standing our most severe winters, without protection and free so far from all disease, its only fault is that it grows too close on the bunch. Allen's Hybrid is the finest white grape we have for the table, but this year the flavor did not

come up to the mark. Rogers' were all very fine and are destined, if they retain their present good qualities to form a new era in grape culture. Some varieties I have thrown out as worthless, viz., Taylor or Bullit and Lenoir, two *miserable wild sour things*, I cannot call them grapes, *the Anna, one of Dr. Grant's humbugs*, and I must here express my surprise that a man of his standing should send out such rubbish as this and devote *nearly two pages* of his catalogue to a description of this grape, and from which I was induced to purchase a vine now pulled up and thrown away after nursing it with great care for several years; it would be only occupying your pages unnecessarily to go over his description of its perfections, suffice it to say, that it is a *miserable flavorless thing* totally unfit for general cultivation. I had the Diana close to it ripening perfectly every season and I never had an eatable grape from the Anna, I can get any number of respectable people in this town to substantiate what I say. The Black Cluster and Pelham Seedling I have also discarded. We have lately formed a Grape Growers Association for the purpose of encouraging the growth of grapes and the manufacture of wine with every prospect of success, as we think we possess a soil and climate well adapted to the successful cultivation of the grape.

I fear gentlemen that I have wearied you with my rambling remarks, I shall be well repaid however, if they are the humble means of awakening a spirit of inquiry into the resources of, I may say, *our country* and in my opinion of its adaptability in many parts of it to grape growing.

Very truly yours

JAMES TAYLOR.

DR. SCHRÖDER'S METHOD.—MESSRS. EDITORS:—In the February number of the *Gardener's Monthly*, is a lecture by Dr. Schröder upon the prevention of rot in Catawba vines, by continued layering, so as always to have fruit on new vines, and the author of the plan claims that it is a successful one.

He claims also, that he has discovered the law, that as vines get older they are more disposed to rot, a law of disease that does not seem to hold good with other fruits.

Whether this method of treatment is the true one or not, it is almost identical with a plan recommended for the prevention of mildew (in foreign grapes grown out of doors) by A. J. Downing, in *Hovey's Magazine*, volume V., page 121.

Speaking of a person who grows foreign grapes successfully out doors, Mr. Downing says:

"In the month of June, every year, he selects on every vine, a clean shoot, some five to eight feet in length, of which he buries about eighteen inches of the middle part, in the common method of layering. The plants in the vineyard are planted in rows, and the layers are made in the line of rows between the old plants.

The second year all the old plants are dug up and flung away, if they are not perfectly strong and vigorous. In this way he preserves a constant stock of strong, new vines, which are able, by their superior vigor, to resist the attacks of the mildew, and bear abundant and beautiful crops."

It will be seen that this plan, published in 1839, does not differ much from Dr. Schreder's, and as we have Mr. Downing's assurance that it prevents mildew, there seems to be good reason to think that the Doctor's may prevent rot. If it does it will be a blessing, in spite of the labor it involves.

J. M. M., Jr.

WALPOLE, MASS.

REMEDY FOR MILDEW.—The moment of troubles for vine-growers and gardeners in general, by the oidium, is getting near, and I thought that some of your readers may read, with some interest, a remedy which is not new, but which proved, in every respect, satisfactory for years, and may, perhaps, not be generally known.

For a long time the application of flour

of sulphur, in a dry state to plants, was recommended, and is still in use in many places, but has never answered completely.

Others recommend the application of flour of sulphur during a wet day, or after syringing the plants all over.

This also did not give full satisfaction. In 1852 the French Government recommended the following remedy—first proposed by a gentleman, M. Grison, in the *Journal de la Société d'Horticulture Pratique de l'Ain*:

One pound of flower of sulphur, and one pound of slack lime, to which three quarts of water are added, gradually, by stirring the mixture; the whole put over a slow fire, and to remain boiling, stirring it until reduced to $2\frac{1}{2}$ quarts.

The liquid, after the solid matter has deposited, is to be corked in bottles, and in case of want, mixed with one hundred times the quantity of rain water, and applied all over the plants, first before the buds open, and a second time before the blooming, and the cure generally is radical.

I have just applied this remedy, with full success, to a lot of roses which I intend to force. Three weeks ago they were all at once completely checked in their growth, and I could not detect the reason until the leaves commenced to drop. It was simply the oidium, which I cured in this way. There is not the least injury to be feared to any plants from it.

By E. A. BAUMANN, Rahaway, N.J.

PEACHES SOUTH.—This month peach trees in our Southern States will do to bud. As soon as the bud starts, head off the top, and a growth of from three to four feet will be the result by autumn.

TREES transplanted this past Spring should be carefully looked over, and if they are not pushing strong will require perhaps more cutting back—perhaps mulching and watering. Thoroughly examine them, and attend to their wants in time.

ANNUALS should be carefully looked over this month, and if inclined to grow too rank or misshapen should have the ends nipped off. As they come into bloom thin out some of the weakly buds, and thereby assist the remaining ones to give you larger size flowers and brighter colors.

In transplanting annual flowers try and study their heights and colors so that as they come into bloom the flowers and foliage will blend harmoniously; as a rule, the dark colors to the centre or back ground, shading down to pure white for the margin.

Annual vines are usually trained on poles or cords, in cone, fan or other shaped forms; they are also made very attractive as masses when trained on a light wire or thread lattice, laid horizontally, about four inches from the ground. If several varieties are so trained together the effect is often very pleasing.

THE AMERICAN COWSLIP—*Dodecatheon Meadia*.—Although a native, is none the less deserving a place in all the grounds, and is one of the few plants admirably adopted to shady borders. If to be grown from seeds, they should be gathered and sown as soon as ripe, in a sandy border, pot or frame, shaded from the south sun. If to be propagated by offsets, they should be taken off about the last of July and at once replanted in a shady border, of good, light, rich, sandy loam.

CAULIFLOWER AND LATE CABBAGE.—Seed sown early in this month will give good heads late in autumn. If severe weather comes on before all the cauliflowers head, they may be taken up and transplanted in good soil, in a light cellar or shed enclosure, where they will complete their growth nearly as well as in the open ground. Cabbage plants sown now for transplanting for winter use are much more reliable than plants already advanced. The heads of late cabbages are almost always firmer and keep better.

WASH FOR BODIES OF FRUIT TREES.—One ounce of copperas to eight or ten gallons of water forms a good wash, and is advised for trial as preventative against blight. One pound of bleachers soda and one gallon of water forms a wash that cleans off all insects, and leaves the trees with fresh young looking healthy bark.

MULCHING OR SHADING GROUND.—Not only does mulching the ground keep more uniform the temperature and moisture about the trees and plants, but it is acknowledged that the shade so obtained assists in a supply of fertilization. Now is the time, if you have not yet applied a mulch around your young trees, etc., to do it. Newly mown grass we have found one of the best, because it retained its place well, and gave no seeds to vegetate; but any litter will answer, or if saw-dust or tan bark are easily accessible, they make a durable and neat material.

ROSES.—Remember, that to keep up a continuous blooming on Tea, Bengal and Bourbon roses, they require to have the blossoms removed, ere the petals fall, and that occasionally weak shoots require pinching back. Keep the ground always fresh and loose throughout the rose bed.

Remontant roses should have their first flower buds entirely removed; because at this time (June), there are abundance of roses, and because by so doing, the plants will form stronger, and more abundant buds to bloom a month hence. Layers should be put down the latter part of this month.

If buds occasionally force out on the bodies of your young trees, let them grow—do not rub them off—many trees are injured by exposure of a long bare trunk to summer and winter's suns—let the buds grow and thus form branches near to the ground, shielding by foliage, and adding to vigor and permanency of the tree.

THINNING FRUIT.—We might write page on page recounting experiments and results of thinning out fruit, but it would only be to prove that which all good fruit cultivators now concede—viz: that one-third to one-half in number of fruits, well distributed on the tree or vine, produce at maturity equal bulk, better quality, handsomer appearance, more satisfaction of mind to the grower, and finally yield in the market a greater pecuniary return.

The present and coming months call therefore for attention of fruit growers to this subject. All fruits on young and weakly spurs or twigs should be taken away, and clusters or groups so thinned, that while a supply of foliage will assist in maturing each distinct fruit or cluster, they may also be pretty evenly distributed over the tree or vine.

CHARRED TURFS form one of the best materials for cucumbers, melons, egg plants, annual flowers, etc., that we have ever tried. In growing we have used about a peck of char to each hill, and for our annual flowers a handful or so to each plant according to its vigor and habit.

RUSTIC BASKETS filled with Verbenas, Phloxdrumondi, etc., etc., form one of the prettiest as well as cheap decorations to small or large grounds. The Irish Ivy, Clematis, or Perriwinkle, each and all are good as a border to run over, and with their rich, green foliage soon hide the rough exterior, leaving the form of the basket, with its green surroundings, and its bright and cheery flowers to meet the eye. Baskets may be made with a few boards and strips of bark, or of wires, with twigs interwoven, or of wicker-work, with bark intertwined, and of form to please the taste.

SALVIAS, PETUNIAS, &c., when about to be planted out for summer blooming, in beds or borders, will have their bloom increased in quantity, and hastened in maturity, by laying the ball of roots from the pot on its side, and pegging down the branches.

GREENHOUSE PLANTS should be mostly placed out of doors this month. Geraniums and many others are the better for being cut back. In placing plants out of doors, try to have them so that they will be in shade soon after mid-day. This is especially a point of importance as we go farther south, where the heat of afternoon suns often nearly destroys the plants.

THE PEAR AND CHERRY SLUG may be easily destroyed by dusting them over with air-slacked lime. We usually go through our dwarf pear grounds about twice in a season, sowing broad cast air-slacked lime, at about the rate of four bushels to the acre, by which means we destroy the slug, and apply lime to the soil and wants of the pear. Some soils, we think, would perhaps be more benefitted by gypsum (plaster of paris), in place of lime, and the slug as effectively destroyed.

BEE MANAGEMENT.—We are no bee manager, and ourself can never approach one of the little workers without receiving from him a stinging hint that our room is what he wants, not our company. Nevertheless, we love the honey, and know many people who know more or less of hives. We have been reading, and from our readings gather the following as principles in their government:

To prevent their swarming, keep them moderately cool. Keep them constantly working by depriving them of most of their honey as it is produced. Never allow them to be starved for want of food; and never allow the larvæ to be reared in old cells.

RESERVE GARDENS.—Every garden of any pretension requires a piece of ground set apart for a reserve garden. Its advantages will be daily more and more apparent as the place grows older and older, until he who has been accustomed to its benefits will hardly know how to care for a place without such an apportionment, as part and parcel of a good place. Of some of the

advantages of a reserve garden, we may enumerate the starting at various times of annual seed, to bring forward and transplant in the border, just before their flowering period; for growing slips and cuttings of choice new plants; for starting bulbs in pots; for position and shielding of forcing-frames; for potting and shading of old plants that require a renewal, or young plants yet untested, or sickly and delicate plants. Many more items for the use of such a piece of ground could be stated; but we have said enough, we hope, to induce every owner of a garden, in planning his grounds, to provide for a reserve garden.

TRAINING TREES.—While we do not advise the commercial fruit-grower to expend time in giving variety of form to his fruit trees by other means than the best practical use of the knife, yet we do like occasionally to see diversity of form produced by artificial methods, exhibiting skill and control of plant life in grounds of amateurs. Trees in fan shape bordering walks, with spreading flat tops, almost umbrella forms, on lawns, or some points or places where space is a part of the scenery, and elevation not admissible. This month is a good time to train and tie the branches, just before or about the time of forming the terminal buds. Many sorts of trees, those especially of a straggling habit of growth, can be not only improved in forms, but their bearing surfaces often enlarged and increased or improved in character.

Gardeners and amateurs can often, with a little labor and care, give additional interest and diversity to small extent of grounds by attention to this item of fancy form in training trees.

STRAWBERRY MONTH.—June is unquestionably the strawberry month over a great part of our Union; and now, while they are in fruit, we shall feel obliged to our friends if they will send us notes of their observations

DESTROY THE WEEDS.—It seems unnecessary ever to hint that weeds require often to be destroyed, in order to keep them down; but we find some cultivators are like the weeds, and require line upon line, in order to induce their action to that which will result only to their benefit.—June is essentially the month of flowers, and equally so of weeds; and if the weeds are taken when not more than an inch above ground, a mere brush with hoe or cultivator will destroy them rapidly and easily; whereas, if left until they are firmly fastened in the soil, a great amount of labor is needed to destroy them; and, besides, they have reduced and consumed a portion of the food in the soil designed for the valued crop.

BULBS of hyacinth, tulip, crocus, &c., require to be lifted during the latter part of this, or fore part of the coming (July) month. Their position of exposure to sun, the soil, &c., will retard or hasten their maturity. When taken up, let them dry an hour or so in the sun, then lay away on shelves, in a cool but dry place. Some practice packing the bulbs, immediately on taking from the bed or border, in dry clean sand. Cut away all leaves, but do not injure any of the root fibres. Pack by laying the bulbs on their sides, and so that they will not touch each other.

DAPHNE-MEZEREUM.—Were the meze-reon to be now first introduced, its early flowering and profusion of blossoms would cause a demand for it from far and wide, rich and poor. The plant is perfectly hardy; and a cluster of the pink and white varieties, with their profusion of fragrant blossoms in Spring, before any leaves expand, command the admiration of every one.—They may be easily grown from layers, cuttings, or seeds, and this is a good time for cuttings or layers. The seeds should be sown as soon as ripe. Light, sandy, loamy soil suits the *Daphne-Mezereum* best, but we have grown it well in clay loam under-drained.

MESSRS. EDITORS.

A correspondent in the April *HORTICULTURIST* alludes to Mr. Griffith's plan of raising grape vines from eyes in the open air, and I beg leave to say a word about raising vines without heat.

For the last two years, I have raised, for my own use, Concord, Diana, Rebecca, and Rogers' 15 and 19 vines, in an ordinary cold frame, without the least trouble.

Some Concord eyes, transplanted into the open ground in May, unsheltered, and never watered once, produced very stocky vines, with roots four feet long, and as large as a goose quill; and the same plants, last year, made canes, in the second season, as large as a man's finger. The Diana and Rebecca received rather more careful treatment, being kept in the frame all summer.

Some of the eyes were put into the frame in April, and some in May, and took care of themselves, with occasional waterings and a very little care—just enough to see that the young plants did not get burnt up.

Grapes lead naturally to strawberries, and I wish to ask:

1. Of what is *La Constante* a seedling, and what are the ancestors of the *Agricul-turist*?

2. Where can exact and trustworthy information be found about the *Chili* strawberry, and the advertised varieties, viz.—*Chili Orange*, *Vilmorin*, &c.?

J. M. MERRICK, Jr.

WALPOLE, Mass., March 31, 1866.

MESSRS. EDITORS.—The article in Jan. number, "Discrepancies of Grape Culture," reminds me of a similar case:

A gentleman of a neighboring town was the owner of a swamp pasture lot. Part of the year this was covered with water. It is situated in a long, narrow valley. The soil a black muck, and quite deep. Through this field was cut several open ditches, through which the surface-water found its exit. With no other preparation of the land, save deep ploughing, the field was planted out to grape vines. They grew vigorously and healthy, and have been for

some years in full bearing, and the crops they produce are really quite surprising—the vines hanging loaded with fruit. The variety is *Isabella*, but one would hardly recognize it. Bunch and berry are both unusually large; color deep, and fine bloom and quality of fruit—better than ordinary. Mildew does not in the least effect it. The experiment is a success.

It is a pretty conceit to call Nature a steady, reliable old Dame, and talk learnedly about "immutable laws." But facts, (and by many learned by costly experience), show, that when we try to chain her down to mathematical exactness—to make her work in a harness of our own fitting—she will sometimes play the coquette, bringing your carefully laid plans to utter disgrace, and then rewarding some blunderer with provoking success. The one studiously did wrong; the other accidentally did right. The fault often lies in trying to make Nature abide by man's laws; to make her produce like results under all circumstances, or what seem to be so to man. If sometimes she will grow better grapes in a swamp than on a sunny hill-side, plant in a swamp. Go with Nature, instead of trying to make her go with you. Bear good humoredly when her plans and yours don't happen to agree. Learn when she teaches, and you cannot help loving the dear old Dame better and better forever.

T. T. S.

DETROIT, Mich., April 2, 1866.

MESSRS. WOODWARD, 37 Park Row.

GENTLEMEN,—Enclosed find three dollars, for which send me one copy of colored plate of the *Delaware Grape*. In the *HORTICULTURIST* for September 1863, you speak of the *Yeddo Grape* with great expectations. Has it been fruited, and is it suitable to this climate? Please give us more light on it. I have an amateur's collection of the reputed first class vines coming forward and wish to experiment with some foreign out-door kinds. A gentleman who has spent several years in China, tells me of a grape, which the same kind is much finer in the northern part of the empire than the

southern. The finest he saw was in 40° of latitude, and was called "Lang-yein Bee-tree," in Chinese—meaning "Dragon's Eye Grape," which with them was the highest name for excellence they could give it.

If it could be introduced here it might prove a valuable acquisition, and if the attention of the importers of seeds and plants from that part of the world was called to it, they might be induced to bring over some specimens. Let us hear some more from the Yeddo.

Yours truly,

S. G. WIGHT, 503 Jeff Ave.

[HAS the Yeddo sunk into oblivion that we hear nothing about it of late? What says Mr. Parsons?—Eds.]

WE have received the following circular, which will, no doubt, prove interesting to many of our readers:—

PAINESVILLE, Ohio, March 20, 1866.

DEAR SIR:

At the annual meeting of the Lake Shore Grape Growers' Association, held in Cleveland the past month, the following preamble and resolutions were adopted:

"Whereas, the Emperor of the French has invited our Government to send to the approaching World's Exposition at Paris American products and works of art; and since it is our belief that the wines made in our country, especially in the regions embraced in this Association, will compare favorably with the best specimens produced in Europe,

Resolved, That we learn with great pleasure that one of our directors, Wm. Griffith, Esq., purposes attending the Paris Exhibition in 1867, and that we hereby appoint him our representative there, and request him to take in charge all specimens furnished by members of this Association.

Resolved, That we earnestly request all our members, and others interested, to forward specimens of native wine and brandy, for this purpose, to William Griffith or J. E. Mottier, South Shore Vineyards, North East, Pennsylvania.

Resolved, That we request Mr. Griffith to procure all the information he can obtain in regard to grape culture and wine making in his proposed tour in Europe, and report the same to this Association."

In behalf of the grape and wine interests of the United States, and in obedience to instructions of our Society, we beg leave to invite your co-operation in furtherance of the object of the above resolutions. Mr. Griffith is one of the most extensive and successful grape and wine producers in this country, and we take pleasure in recommending him as a gentleman every way competent and worthy to represent these interests at the Paris Exposition.

We, therefore, respectfully request you to send to him, for this purpose, specimens of wines made from native grapes, by yourself or others. The wines must be pure, free from addition of sugar, or other extraneous substance; at least two bottles of each variety, distinctly labelled, giving name of grape, location of vineyard, name and residence of maker, date, &c.; to be sent to William Griffith, North East, Pa., so as to reach there not later than 1st November, 1866, when they will be inspected and classified by a committee, consisting of L. F. Allen, of New York; J. A. Warder and Charles Carpenter, of Ohio; and J. E. Mottier and Wm. Griffith, of Pa.

For further particulars, address William Griffith, North East, Pa., who will be happy to answer all questions.

J. P. DAKE, President.

M. B. BATEHAM, Secretary.

FLUSHING, March, 1866.

EDITORS HORTICULTURIST.—The following extract from a letter received from a prominent lover of grape culture at Great Salt Lake City may not be uninteresting to your readers, as showing the adaptation of the climate of Utah to the culture of the vine. The letter is dated Sept. 12th, 1865, and says:

"I received from you quite a variety of foreign grapes some years ago, through the

Post Office. Among them were Buckland Sweetwater, White Frontignan, Chasselas de Fontainbleau, &c., all very fine; and all *ripe here now in the open air*. I pulled one bunch from the former ten days ago, weighing 3 lbs., less two ounces, and yesterday two bunches, together weighing $4\frac{1}{4}$ pounds, all from one vine, in the open air, and it had perhaps *fifty pounds more on*."

It is certainly one inducement to emigrate to Mormondom if one can have these delicious varieties of grapes arrive at such perfection in the open air.

Yours truly,
PRINCE & Co.

BOOKS, &c., RECEIVED.

GRAPE-GROWING AND WINE-MAKING, by George Husmann, Hermann, Missouri. G. E. & F. W. Woodward, publishers, 37 Park Row, New York. Price, \$1.50.

A new and practical work, fully illustrated, treating of the propagation, training, and culture of the native vine, both in the vineyard and garden, with a carefully prepared list of those varieties which, after extensive trial, are found free from disease, and adapted to our wants.

Also, thorough and comprehensive directions for wine-making, with illustrations of all the various instruments and utensils used in the manufacture.

Mr. Husmann has here given the results of his experience of many years in the culture of the vine and in wine-making, in such a clear and concise manner, that all may understand the various processes.

MINIATURE FRUIT GARDEN, by Thomas Rivers, from the thirteenth *English edition*. Orange, Judd & Co., publishers, 41 Park Row, New York. Price \$1.

This work has already passed through thirteen editions in England, which fact would seem to be a sufficient guarantee of its worth. The author is a well-known practical nurseryman and fruit-grower, and, we may add, has met with great success in his mode of culture. In the work before us, we have a thorough system of pruning and training to induce fruitfulness at an early age, and

also to keep the trees within such narrow bounds that a large number may be grown within the limits of an ordinary garden.

ESSAYS ON SOILING CATTLE, by Josiah Quincy, with a Memoir of the Author, by Edmund Quincy. A. Williams & Co., publishers, 100 Washington Street, Boston.—Price, \$1.

The subject of soiling cattle, as it is called—that is, feeding them upon green food in sheds or stalls, instead of allowing them to roam at will in pastures—is attracting considerable attention among our farming community, especially near large cities and towns, where farms are small, and the value of land great. The author shows most conclusively, from his own experience, that there is great economy in the practice, and that our small farmers may, by adopting this system, be enabled to keep as much stock as the possessor of a hundred acres upon the old system.

SIX LECTURES ON AGRICULTURE, by Mr. George Ville. A. Williams, Boston. Price 30 cents. Translated from the French by Chas. Martel.

Scientific Essays on the chemical constituents of soils, and the crops grown upon them, with results of experiments made to ascertain what properties of the soil are taken up by the growth of certain crops; with suggestions as to the proper elements to be returned to exhausted lands to renew their fertility.

THE BOOK OF ROSES, by Francis Parkman. J. E. Tilton & Co. Publishers. Boston. Price \$3.

The author of this elegant volume will be remembered by our readers as a frequent contributor to the pages of the *HORTICULTURIST* during the past year, and is well known as a skilful cultivator, as well as an accomplished writer. Mr. Parkman has given us in this book much useful information, which if followed, cannot fail to ensure success in the cultivation of this queen of flowers. Explicit directions for culture, both in the open air and in pots, for greenhouse

and parlor decoration are fully given, as well as the various operations of planting, pruning and training, with lists of the best varieties in their respective classes. The book is a valuable addition to any horticultural library, and an elegant ornament for the drawing-room table.

CULTURE OF THE GRAPE, by W. C. Strong. J. E. Tilton & Co. Publishers, Boston Mass. Price, \$3.

Grape culture is attracting much attention in our country, and more especially in those portions of it, where experiments have demonstrated the adaptability of the soil and climate. The most casual reader of Horticultural and Agricultural periodicals cannot fail to notice the frequent articles upon the grape, and if he turns to the advertising pages, he will perhaps wonder where can be found purchasers for the immense number of vines for sale; and yet all are sold without difficulty. Now and then a new book upon the subject appears, which cultivators hail with delight, hoping to obtain more information.

In the book before us, we have the Grape very thoroughly treated, from the propagation of the vine through the various systems of training, until the fruit is ripened and marketed or consumed, with full remarks on diseases and insects. The work is not claimed to be entirely original; the author acknowledging himself indebted to numerous writers in our horticultural monthlies for practical suggestions. This is a valuable feature in the work, as much time will be thereby saved to the reader, by having the experience of many collected in one volume.

Mr. Strong devotes but little space to culture under glass, and still less to wine-making. Much more might have been said on both these topics without making the book too voluminous.

BRECK'S NEW BOOK OF FLOWERS, by Joseph Breck. Orange Judd & Co. Publishers, 41 Park Row, New York. Price \$1 75.

The first edition of this work was pub-

lished fifteen years ago—the last in 1856,—since which time it is almost needless to say, to those of our readers who have kept pace with floriculture, that a vast number of new plants have been introduced to their notice. Much of the book has been rewritten, incorporating only those portions of the old editions, where no improvement could be made. About one hundred pages have been added, and the culture of flowers brought down to the present time.

INDIAN CORN. Its value, culture and uses, by Edward Enfield. D. Appleton & Co. Publishers, New York. Price \$1 75.

Heretofore no work has been published exclusively devoted to the culture of this most important staple crop. We may say that almost every farmer, however few the number of his acres, finds place for his corn patch, and yet how few cultivate it well enough to obtain the yield that the land is capable of producing. To endeavor to instruct his readers in the proper mode of culture and harvesting the corn and stalks, is the author's aim in this work, and he has succeeded in giving much desirable information in a pleasing style.

DE LA VERGNE'S SULPHUR BELLOWS.—We are prepared to furnish this instrument, which is used so successfully in France and Germany for the destruction of mildew on the grape vine and other plants. Any pulverized substance can be thrown by it either upon the under or upper side of leaves of plants. Price \$3 50.

We have received a large supply of English publications on the subject of Agriculture, Horticulture, Landscape Gardening, and Architecture, and are prepared to import to order books on any subjects on the most favorable terms. See advertisement of English books in this number.

Secretaries of State and county agricultural societies are requested to send their last reports, or information to where they may be had to Messrs J. E. Tilton & Co., Boston, Mass.

THE HORTICULTURIST.

VOL. XXI.....JULY, 1866.....NO. CCXLI.

TREES IN ASSEMBLAGES.

BY A. D. G.

By nature, trees are eminently social: human art alone separates them. When Columbus first touched these shores, he found no lawn trees, parks or avenues; no groves, even. It was all one wide stretching forest; except, it may be, where the Indian's rude axe or the fire had made here and there a clearing.

But nature does not always do things in the best way: a hint, now and then, from art helps her amazingly. In my friend's pleasure-ground, yonder, is a model specimen of the Norway Spruce, fifty feet high. Its lower branches rest gracefully upon the lawn; thence midway and up to the apex, the limbs extend outward in unbroken whorls; the foliage hanging from them like tresses, and swaying in the wind; near the top are multitudes of bronzy cones, contrasting finely with the deep green of the leaves; and the whole tree from the ground to its highest point forms a symmetrical pyramid of waving verdure. Now, if nature had had her own way with this tree,

she would have set it with a multitude of shrubs on some cold, Norwegian mountain, where, though it might have made good ship timber, its lower branches would have been killed out by the shade of the surrounding forest, and its beauty entirely destroyed. What say you also, of yonder Elm, standing alone in the meadow, with its colossal trunk so strongly buttressed at the base, then tapering as it rises, until it spreads out and supports a leafy dome, so light, symmetrical and graceful as perfectly to satisfy the eye with its grand beauty. You don't find such trees in a primitive forest.

Exceptions of this sort being borne in mind, let us consider trees socially related. The young artist in composing his landscape is apt to set his trees one by one at regular distances on the canvas, like soldiers on parade. Experience teaches him to group them. And the young landscape-gardener is apt to dot his ground over with trees and shrubs the same distance apart, and perhaps

in parallel rows; but after more study and observation he finds that a better result can be attained by disposing some of them in irregular groups and masses. There are cases, indeed, where trees should be set in rows and at regular intervals; as, for instance, by the side of streets, and in broad avenues in public parks. Whoever has walked under the elms on Church street, New Haven, that long, Gothic aisle, with natural columns, vaulted roof and twilight shade beneath, will not speak lightly of such artificial planting. Yet cases like this are the exception, and the rule prevails in favor of some degree of irregularity.

Along yonder fence-row, several maples have sprung up within a few feet of each other and as they have grown from year to year, they have formed a large, rounded mass of luxuriant foliage. Being a little crowded as they grow, their trunks are thrown somewhat out of the perpendicular, but they have locked arms above, and present to the eye one vast symmetrical ball of richest verdure. In the field beyond, nature shows a more sportive mood. A scarlet maple has sprung up by the side of a rock maple, and close by is a white ash; in the rear towers a white-armed buttonwood. Here is little or no symmetry of outline, or uniformity of color, but the effect is striking in summer, and in autumn it is grandly beautiful. One of the most pleasing combinations, whether natural or artificial, is seen when a group of round-headed trees is overtopped by one or more spiry trees, like the poplar, larch or fir.

Nature does some of her finest works on the banks of rivers and lakes, where the trees shoot out with great irregularity; some hanging over the water, perhaps trailing their branches in it; others throwing their arms abroad horizontally or aloft, with ever-varying form and color of branch and leaf. If one would learn the beauty there often is in simple lines, let him study the trunks and limbs of these trees; the roots perhaps a little undermined by the water; the branches crowded forward by trees be-

hind, and bending outward over the stream to get more light and freedom, yet again ascending to maintain the balance of the structure. On hillsides and rocky precipices, trees often assume bold and picturesque forms. If they could be transplanted bodily into a smooth lawn, they would be scouted at as coarse and scraggy, and fit only for the axe and fire, but standing where nature has reared them, they possess the highest charm. They are the trees most beloved by painters and poets.

Few natural scenes are more unpleasant than a recent clearing in a dense forest, palisaded with tall, gaunt trees, and standing perpendicularly with here and there one leaning and threatening to fall, with no side branches to hide their nakedness, or to conceal the wild undergrowth behind them. The second growth of timber presents us the most handsome woods, where the trees grow up with some degree of uniformity; those on the outside of the woods especially being well developed, billowy and graceful. Each tree follows its own law of growth, giving variety in outline, branches and spray, while all together form a pleasing, harmonious scene. "It is curious to see," says Gilpin, "with what richness of invention, if I may so speak, Nature mixes and intermixes her trees, and shapes them into such a wonderful variety of groups and beautiful forms. Art may admire and attempt to plant and to form combinations like hers; but whoever observes the wild combinations of a forest, and compares them with the attempts of Art, has little taste, if he do not acknowledge with astonishment the superiority of Nature's workmanship."

However pleasing scattered masses of wood may be, vast, unbroken forests are monotonous and gloomy. Nature, to be most attractive, must be associated in some way with human life and art. Hence it is that a woodman's cottage with its curling smoke, or a fisherman's boat on a secluded lake, gives a wild forest picture a tender, human interest and a tinge of romance.

Trees exhibit themselves best, socially, in the autumn. During the summer they hold their powers in some reserve. But when October comes, they put on their holiday attire; they gather up all the rain-bows of the vernal year and twine them about their brows; they dress themselves in all the tints of sunset, and then call upon man and nature to admire.

But, leaving the domain of beauty and poetry, let us look at trees as scientifically related. The natural philosopher may not be wholly wanting in æsthetic feeling, yet he finds a peculiar pleasure in grouping trees together botanically. Who will say, too, that his heart does not somewhat inspire his scientific zeal to bring together the scattered members of each household, and so to "set the solitary in families"? But whatever the motive, it is in this way that arboretums have been established, where we find trees of different orders, species and varieties collected from all parts of the world, and classified more or less in a scientific manner.

The best arboretums of which the writer has any knowledge, are those of Chiswick and Chatsworth, England. The latter has a world-wide reputation. It embraces forty or more acres, and contains upwards of two thousand species and varieties. The trees, shrubs and plants are set near the margin of the carriage-road, which winds through the premises. They are set far enough apart to allow their full development, and to admit of the subsequent introduction of other newly discovered specimens. Being classified in families, it affords an interesting study to seek out the relationship where the external resemblance is often very slight. The name of every tree and plant is marked on a wooden label, the letters being so large, and distinctly painted as to be read at ten yards' distance. Each tree is marked with its scientific name, its common English name, its native country, the year of its introduction, and the height which it attains at maturity.

These trees and shrubs, it will be remembered, are those only which are hardy

in Great Britain, and of course many important species have to be left out. This great assemblage of rare vegetation has not cost the Duke of Devonshire, (the owner of the property,) a sixpence. The ground was prepared, the trees bought, and all the other expenses paid from the proceeds of the timber trees with which the domain was originally covered, and which were removed and sold only as fast as the room was wanted for planting. This fact indicates either that this timber was of remarkable quality, or that the price of lumber is much higher around Chatsworth than in our own country.

As this public ground is centrally situated, and is generously thrown open to all visitors, its influence must be salutary and wide-spread. Many a person imbibes here his first love of rural pursuits. Many a visitor is surprised to learn of the great variety of trees and plants which have been brought into cultivation. The day seldom passes when botanists or amateurs or nurserymen may not be seen here, examining the trees and making notes in their memorandum-books, for use elsewhere. As the late Mr. Downing said, when visiting it, "The most perfect novice in trees can thus, by walking round the arboretum, obtain in a short time much knowledge of the hardy *Sylva*; while the arboriculturist can solve many a knotty point by looking at the trees and plants, which no amount of study, without the living specimen, would settle."

We are happy to know that some of our leading nurserymen in this country are establishing arboretums of considerable extent. On some of the older estates along the Hudson, and around Boston, Philadelphia and Baltimore, valuable collections are being made, which are interesting as objects of curiosity, and not altogether lacking in beauty. And, not least in importance, several of our first colleges have begun the work of gathering into their grounds specimens of all the trees, shrubs and plants which are hardy in their respective climates. May these good works go forward to their completion.

DESIGNS IN RURAL ARCHITECTURE.—No. 15.

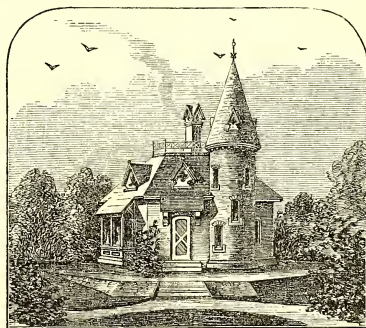
BY GEO. E. HARNEY, COLD SPRING, N. Y.

Our design for this month represents a porter's lodge, built about a year ago by Mr. F. P. James, and situated near the gates at the entrance to his country place in Cold Spring.

It is constructed of rough stone, quarried in the immediate vicinity, laid in its natural bed, and pointed up afterwards with light-colored mortar, and—though we ob-

ject to the use of this light mortar, preferring the softer tint of the dark—the effect of the whole is very good, the bright green foliage of the trees, by which it is nearly hidden, contrasting well with the dark gray tone of the stone.

Its walls are low, and its roof projecting boldly, covered with slates cut in an ornamental pattern. The tower, which is the

FIG. 81.—*Perspective.*

principal feature of the exterior, rises from the angle of the front nearest the public road, and contains the stairways to the chamber and cellar.

The plan shows four apartments on the principal floor, as follows:—

The hall is approached by two or three steps, leading to a wide porch, covered with a broadly projecting hood, supported on heavy brackets. This hood is, in fact, a continuation of the roof of the main house

beyond the eaves, as is also the roof of the bay window on the adjoining side.

The staircase in the tower is on the right of the front door, and is separated by an archway from the hall.

The room on the left, containing the bay window, is the living room, and measures 11 feet 6 inches by thirteen feet. It opens into a room 15 feet by 11 feet 6 inches, and is used as a kitchen. The other room is a bedroom, and measures 8 feet

by 9 feet. The kitchen has a door communicating with the yard in the rear.

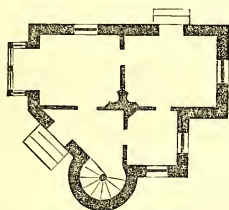


FIG. 82.—Ground Plan.

The chimney is in the centre of the house, and one stack of three flues answers for all the rooms.

There are ventilators on the roof, and a dormer window to light the attic, which has one room finished off for a sleeping-room. All the principal windows are glazed with diamond-shaped panes of glass.

There is a cellar under the whole house, containing bins for coal, store closets, &c., &c

PLAN FOR LAYING OUT A THREE-ACRE LOT.

BY E. FERRAND, DETROIT, MICH.

This garden has the appearance of a much larger place than it really is; in fact, the plan could be applied to a place of ten or more acres just as well as to the limited space of three. The roads are numerous; it is intended for a lot in the proximate vicinity of the city, and to be occupied by a man who has means to keep it in order; this also applies to the drawing for a five-acre lot, to be given hereafter.

All these gardens are intended for the same purpose, and laid out according to the same principle; that is to say, the most is done to conceal their narrow limits, and leave one to guess how far one may be from the end of it when one is no more than ten feet from the well-concealed fence; at the same time, all the secondary buildings, such as barns, stables, &c., are very close to the main house, though they are entirely out of sight.

In the plan, smoothly-curved walks are drawn in the thickets of large trees; there is also a vine harbor, which is a handsome ornament. The kitchen garden occupies about $1\frac{1}{4}$ acre, and is in proportion to the whole extent of the place.

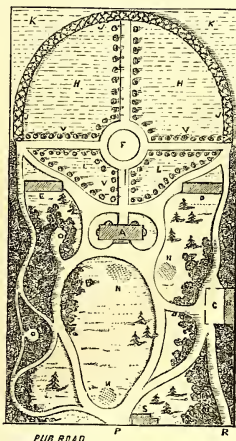


FIG. 83.—Plan.

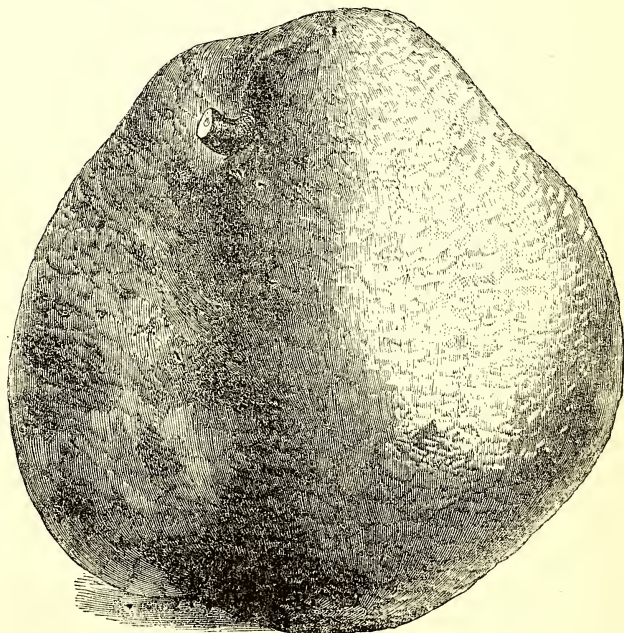
REFERENCES.

- | | |
|-------------------------|----------------------------|
| A Dwelling House. | K Place for Small Fruits. |
| B Stable, Barn, &c. | L Strawberries. |
| C Barn-Yard, with Three | N Flower Beds. |
| Openings. | O Places for Rustic Seats. |
| D Gravelly. | P Principal Entrance. |
| E Greenhouse. | R Entrance to the Barn. |
| F Water. | S Gardener's House. |
| H Kitchen Garden. | V Dwarf Fruit Trees. |
| J Grapevine Harbor. | |

"HEBE" PEAR.

BY WM. SUMNER, POMARIA, S. C.

HEBE PEAR.—Fruit large; specimens have frequently weighed 28 ounces. Six of fair size of this pear generally weigh eight pounds. Color, lemon-yellow, inclined to greenish; dotted all over with russet specks and deep irregular russet blotches. Stem, short, thick, in deep basin. Form, round, obovate, with irregular protuberances, sim-

FIG. 84.—*Hebe Pear.*

ilar to the Duchesse d'Angouleme. Flesh, sprightly, melting, buttery, with slight vinous flavor; has no matured seeds, and seldom forms seeds at all. Ripens in South Carolina in December. Tree vigorous, with finely matured wood, free from thorns. Shape, naturally pyramidal.

THE CANKER WORM.

BY COL. D. S. DEWEY, HARTFORD, CONN.

"*Quien Sabe?*" — that is it exactly — "Who knows" a preventive or cure for the periodical and pestiferous attacks of the canker worm? *Do you?* If so, have you not hid your light under a bushel? If not, then are we all equally in the dark.

Here now are my fifteen volumes of the HORTICULTURIST,—'51 to '65 inclusive—and not one word of caution or advice on the subject. If science and experience were not somewhat at fault this blank might have been filled. Direct information would have been of incalculable service; and even negative statements would have been of great value.

Can any one,—will any one,—now furnish a positive and perfectly reliable prescription for the prevention of the ravages of this cankerpest, which has been such a scourge to certain portions of the country for the past two or three years?

I venture to offer, in advance, a supplementary summary of negative testimony on the subject;—a reference to certain proposed remedial measures, all of which, I think, and most of which I know, will not and can not be effectually used in the case: that is, without much more than the ordinary, and even extraordinary care which any pomologist can afford to give, or can be reasonably expected to give, to such an orchard as I have in my mind's eye; say of from one hundred to two hundred thrifty twenty-years'-old apple, cherry, plum and quince trees.

Failing, as above stated, in my review of the volumes of the HORTICULTURIST, to find printed testimony, recourse was next had to parole evidence. The only knowledge thus attainable was that tar was the remedy. So, tar it was; and, for sixteen successive evenings, (commencing March 17th, 1865,) the application was faithfully made, upon some sixty choice apple trees. Many neighbors followed suit; "any quan-

tity" of grubs were caught; but the result uniformly showed a perfect waste of time and money.

(Mem. *Gas tar* was freely applied by some, directly upon the bark, without causing any apparent future injury to the tree, contrary to a generally received opinion.)

In one orchard of considerable extent, straw was scientifically arranged and tied around the trunks of the trees; in another, the soil around the collars, and for a considerable distance beyond, was up-turned in the fall, and left to the action of the frost; in another, tin collars, or capes, were nicely adjusted, some flat and some flaring; in others, lime, ashes, and other materials, were spread as a mulch, or piled up around the bodies, and so on;—*they all failed*, as did, also, even Seymour's and Allen's regularly patented tree-protectors.

Now, the prime question recurs, what shall we do next?

Mr. Seymour, (the protector-man, whose article was advertised in the HORTICULTURIST, last August,) tells me that he can improve upon this idea, and give us something, next fall, which will be "a surething." But his plan, (even if it could be warranted,) is rather too expensive for general adoption.

Mr. Allen, (another protector-man,) has shown me an improvement upon his arrangement, which, he asserts, is cheap and reliable. But —

"Mr. Allen," said I, "how often is this oil to be applied to your patent tins?"

"Once a day will answer."

"Once a day! If that is so, why not use tar, which will remain sticky for at least twenty-four hours, and is comparatively inexpensive?"

I report, in brief, only the substance of our short colloquy; the fact is that the same plan has been tried by others, as well

as myself, and rejected, as involving too incessant attention.

For my own use I, also, compounded and applied a slow-drying varnish, which I thought was just the thing, but the punctured leaves of my cherry and apple trees prove its inefficiency.

Mr. Hovey tells us, in his May number, that canker worms "may all be destroyed by a thorough syringing with whale oil soap." My opinion is that farmers and orchardists can never be induced to purchase, and apply to such a use, the requisite syringes and soap; nor be made to think that they can spend their time in sudsing off the underside of each leaf on a hundred or more trees.

Neither do I think that they can be persuaded to box around the trunks of a hundred or more trees, and pack with sawdust, and arrange nicely-soldered oil-troughs to entrap the moths and larvæ, as recommended by some.

Neither have I full faith in the use of the murate of lime, so highly recommended by the *New England Farmer* of April 28th; but if any union of hydrogen and chlorine with a base from which carbonic acid has been expelled, will compose a material which will destroy insect existence, and, at the same time, increase vegetable vigor, it would seem that its application to soils filled with such noxious things as canker-worms should be made, by way of further trial.

Has any one in "our parish," tried it?"

This incomplete article,—intended more as a simple finger-post to warn off from the wrong way, (or to tell "what not to do,") rather than a correct guide-board to show the true way,—would be more incomplete without the addition of the following brief description of "the enemy," and some of his antecedents and surroundings.

We may find the first indication of the dreaded presence of the canker worm quite early in the fall, when forking up the soil under our fruit trees, for their dressing of manure or mulch. It is then made visible

in the shape of a light brown chrysalis. (Fig. No. 85.) By the way, these are readily



FIG. 85.—*Chrysalis*.

devoured by poultry, and I judge from my experience, last fall, that if I had but half a dozen choice trees to protect, I could do it quite effectually by carefully exposing the soil, (from three to four inches in depth) and breaking it up so that my hens could get at the chrysalides, and thus make away with them in their embryo state.

Its next appearance is in the form of the male miller, (Fig. No. 86,) and the female



FIG. 86.—*Male Moth*.

grub. The male, with the aid of its wings, can, of course, fly from the ground to any part of the tree; but the female is obliged to crawl up the trunk; and it is to prevent her ascent that the main efforts of the



FIG. 87.—*Female Moth*.

fruit-grower are to be directed; to entrap and destroy the vermin in this stage of its progress, if not previously destroyed while in its chrysalid condition. The precise time of its appearance may vary with the character of the season; its first occurrence last year was on the evening of March 15th, and its second, October 28th.



FIG. 88.—*Eggs*.

Meanwhile, we find it in the egg, (Fig. No. 88,) deposited, generally, in small clusters, in

the forks of the spray, but sometimes on other parts of trees; and even upon fences. and out-buildings.

Finally, we again recognize it in the shape of a tiny black worm, simultaneously



FIG. 89.—Canker Worm.

developed with the first young foliage of spring. It rapidly increases in size until it appears to be full grown (Fig. No. 89) about the middle of June, when it descends to the ground, spinning down its spider-like web from the limbs, whose leaves and blossoms have been entirely consumed by it; leaving the tree with the appearance of having been scorched, as by fire.

HINTS ON TRANSPLANTING EVERGREENS.

BY CHAUTAUQUA.

THE warm summer months, now at hand, are the best time in the year for transplanting evergreen trees, and a few short hints on the subject may not be amiss. A large percentage of nursery-grown evergreens, and probably three-fourths of these trees taken from the forest, are killed outright in transplanting, simply on account of ignorance of the necessary precautions to be taken in their treatment at the time they are transplanted, and afterwards.

The principal thing to be observed is, *never to let the roots see the sun, or feel the wind*, long enough to lose their surface moisture. The reason for this is not agreed upon by all vegetable physiologists. Hon. John H. Klippart, so widely known in connection with Ohio agricultural matters, in a conversation on the subject, gave me, as his opinion, that the bark of the roots of evergreens, and many other plants, is as sensitive to light as are the chemicals of the photographer, and that the rays of sunlight, either direct or refracted, produced a chemical change in the bark, or vessels therein, injuring them to a greater or less extent.—In support of his theory, Mr. Klippart can certainly show some good evidences. Evergreens, and some wild flowers and plants from the woods, in his grounds at Columbus, Ohio, are much thriftier if transplanted *in the night!*

My own theory is, that if the sap in the roots, which is more or less resinous, is suffered to become even partially dried by the

sun or wind, it (the sap) is rendered thicker, and becomes almost, or quite, indissoluble, choking up the vessels or ducts, and thus rendering the roots incapable of assimilating the necessary food for the growing tree from the surrounding soil.

Whatever the theory, the fact remains, that if the roots of evergreens are kept moist and shaded from the sun, these trees, are, as a class, more sure to grow when transplanted than any other living plants, except some weeds.

Furthermore, if possible, get the evergreens from a good nurseryman, who is a good propagator, and, if to be shipped to any distance, who will pack the trees so that the roots will keep moist, and the foliage and branches cool and dry. Nursery-grown trees are already prepared as to their roots for transplanting, many or all the rootlets remaining on the roots, while trees from the forest unavoidably lose nearly or quite all the rootlets, unless the trees are very small when transplanted.

As to the time of year, from the first of May to the end of August is as good as any time, provided always that the roots are kept covered and moist. I have taken hemlock from the woods in August with better success than in April or May. They seem to do better when the sap is in motion than before or after.

Lastly, set out plenty, and you will get the benefit, and also the thanks of the next generation.

E. W. BULL ON GRAPE CULTURE.

BY J. M. MERRICK, JR., WALPOLE, MASS.

The *Massachusetts Ploughman* is publishing a series of short, practical papers on the open air cultivation of the grape, written by the Hon. E. W. Bull, of Concord, Mass., the originator of the Concord Grape, and a cultivator of the vine, whose experience and success have given him a very honorable position among the horticulturists of this country.

The solid basis of fact and experience on which Mr. Bull's papers are founded, and the general soundness of his views, make me think that a brief *résumé* of these Essays, with such criticisms as may not seem impertinent or presumptuous, will be acceptable to the numerous readers of the *HORTICULTURIST*, and I therefore ask leave to present a sketch of the learned Vignerons' remarks, with a word of comment of my own.

In his first paper, Mr. Bull discusses the question whether grape growing is profitable or not, and answers it in the affirmative. He says, "the Concord is the only grape I cultivate on a large scale, and that for *sixteen* years has not failed to give me a remunerating crop.

One acre of well-established, healthy vines, will give about seven tons of grapes, worth at wholesale, on the average of the last four *years*, fourteen cents per pound, or about 2,000 dollars. This amount, large as it is, has been exceeded in many cases, but if you reduce the result one-half, you still have one of the most profitable crops known to our husbandry." (I may say in parenthesis, that two of the largest grape-growers in this State tell me that they make \$1,200 per acre per annum with the Concord.)

"At present, and indeed for a long time to come, the market price of the fruit will be so high as to prevent the making of wine to very great extent; but whenever the crop of fruit becomes so abundant that

the price declines, wine will be made in large quantities, and its manufacture will be found more profitable than selling the fruit.

No other farm crop requires so little of the farmers ready capital, manure, as the grape.

I have vines which give me annual crops of one hundred and twenty pounds each, and which have had no manure for ten years. I have no occasion to give the Concord any manures except a dressing, once in three years, of twenty bushels of bone-dust, twenty bushels of unleached wood ashes, and five bushels of plaster of Paris to the acre, spread broadcast and harrowed in."

I believe that we are gradually reaching a more rational view of the wants and requirements of the grape, and that Mr. Bull is right in what he says about manures. For vines that are to bring money into the owner's pocket, the days of deep trenching and high manuring are past and gone. Certain kinds of grapes, as the Iona and the Delaware need a rich soil and the highest possible cultivation, and this is a great pity, for if the Iona had the freedom of growth and vigor of the Concord, we should not have much further to go to find the perfect grape.

A vine that requires constant attention and petting, and a considerable annual outlay for manure, can hardly be cultivated with profit on a large scale.

I have seen the vines of which Mr. Bull speaks, in full bearing, and can testify to their splendid appearance, vigor, and capacity to produce loads of fruit. They had had no manure for ten years, but their owner proposed to give them a slight dressing of ashes the present season.

Mr. Bull advises planting vines in rows running north and south; the rows being ten feet apart, and the vines six feet apart in the row. This gives sixty square feet to

a vine, and facilitates working with a horse and cart in the vineyard.

The following is the estimate of the cost of planting an acre:—

726 vines, at \$25 per 100.....	181 50
40 loads compost.....	40 00
Ploughing.....	6 00
Carting and cross-ploughing.....	3 00
726 poles at 1ct.....	7 26
Planting, two men, ten days.....	30 00

267 76

There will be a difference in the cost in various localities, but the above is a fair average. Mr. Bull, we presume plants two year old vines, judging from the price he gives, for first class one-year old Concords can be bought for ninety dollars per thousand.

The forty loads of light compost is to promote the formation of roots the first year, and the application of the compost is not to be repeated.

Mr. Bull's second paper is devoted to the operation of planting, and we quote the substance of it, condensing a little here and there for the sake of brevity:

"Having prepared the ground for planting, open a furrow on each side of the line on which the grapes are to be placed, and two feet from it, turning the earth towards the middle of the bed and ridging it slightly.

Let one man bestride this ridge at the end of the line, and throw out the soil to the depth of six inches over a space four feet square, *i. e.*, let him form a bed for the vine four feet on each side, and six inches below the general level of the field. A second man having placed the vine in the centre of this table and spread the roots out; the first man, still bestriding the ridge, must step backwards and throw out from between his feet soil enough to cover the roots to the depth of six inches, thus planting one vine and making a bed or table for the second. The earth for covering the last vine in the row is taken from the end of the second row, that from the last in

the second, from the third, and so on, and two men can thus plant with ease and rapidity. If the soil is wet and strong the vines should be planted four inches deep instead of six, this being the distance from the surface the roots are usually found when they have the power of selecting for themselves. Never shorten the roots of a grape vine. You may cut the top in within two eyes of the level of the ground, but by all means save all the roots."

To recapitulate, we may say that in these two papers Mr. Bull recommends a light, warm friable soil, not too rich; advocates the use of mineral manures only, and these in small quantities; advises us to give each vine sixty square feet of room; to plant shallow, without shortening the roots, and, though this we should have put first, he insists that grape growing is profitable

While waiting for the third article of this series to appear, an opportunity is given, perhaps, to say a word or two about the Concord grape, and its relation to other varieties. Passing by those growers who call the Concord "horrible," "containing not a single element of goodness," we come to the class that declares it to be a good grape, but now surpassed by better kinds, and that its day is drawing to a close.

Nothing could be further from the truth than this last notion.

Neither Mr. Bull, nor the present writer, nor in fact anybody of common sense maintains that the Concord is the best out-door grape we have, for all know that there are many kinds superior to this variety. The Diana is a better grape; the Delaware is decidedly superior; Allen's Hybrid and Iona, in point of flavor, leave the Concord out of sight,—and, in fact, we might go on and name other grapes that for table use claim a place in the garden with much better right than the variety we are discussing. We met a refined connoisseur the other day who professed to detect something "earthy" (!) in the flavor of the Concord, but without pretending to any such delicacy of taste, we admit that the Concord is a second class grape.

Making this inevitable concession we find on the other hand an immense volume of testimony in its favor. From vineyards scattered from Maine to Kansas comes proof that the Concord is hardy, is a sure and regular bearer, is vigorous and easy of propagation, grows well in a poor soil, and does not do badly in a rich one; endures the extremes of neglect and ill-treatment, and produces fruit that sells readily, and makes a good wine.

Has any one well-known variety now cultivated in the United States an equal mass of evidence in its favor? We think not.

Delaware Grapes were forty cents per pound in the Boston market last year, and Concord's twenty-five cents, both these, of course, being the retail prices.

The latter kind may have sold so low as twenty cents some days, but we saw none at less than twenty-five.

Its wine-making properties have been settled decisively by Mr. Bull, in Massachusetts, and Mr. Husmann, in Missouri, and thousands of experimenters on a smaller scale.

I solicited last year the opinion of the three largest growers of grapes in Massachusetts respecting the Concord, and received the following answers:

The first says, "I know no grape possessing so many good qualities, either for the table or for wine as the Concord." The second writes: "I regard the Concord decidedly the best out-door grape that has yet been proved for field culture." The third says, "All things considered the Concord is the best grape with which I am practically acquainted."

It is needless to accumulate more evidence, and I should not have said so much if I were not tired of hearing people talk contemptuously about a grape whose work is not yet half done, and for an index of whose popularity the sales books of our leading propagators may safely be consulted.

We hear that Rogers' 4 and 19 are to take the place of the Concord. If they are better, hardier, more productive and vigorous, we shall all welcome them with open arms, but until we have conclusive proof that the Concord is surpassed we shall cling to it as to an old and faithful friend.

That the best out-door grape we now have is nearly as good as varieties that will appear and be disseminated in less than a score of years, we cannot believe.

The chances of getting improved kinds are too many; the experimenters too numerous, and their enthusiasm too genuine to leave any doubt about the result.

THE ORIGINAL RED BEECH TREE.

BY HORTICOLA.

GEO. B. EMERSON, in his report on the trees and shrubs of Massachusetts, has the following, in regard to the original red (or purple) beech tree, on page 63:—"Among the most remarkable, are the purple, or copper beech, and the weeping. The original tree, from which all the varieties of the former of these have been propagated, is said to have been discovered by accident, in a wood in Germany, towards the end of the last century, and is supposed to be still standing."

If a man of Emerson's extensive knowledge of trees had no better information of a tree so remarkable, and propagated and planted in all parts of the globe where the climate is adapted to the growth of the beech, it cannot be expected that others are better acquainted with it. As I was born in a village near enough to the place where that tree is still growing to enable me, when a boy, to go there often to look at it, and to admire it, I concluded to write something about it, thinking that such an

account might be of interest to those who like to investigate the history of our cultivated plants.

The original red beech tree is found in *Thuringia*, a part of Germany, lying between the Harz Mountains and the Thuringian Forest. Thuringia had formerly a sovereign of her own; then the city of Erfurt was her capital. At present, it is divided among Prussia, the principalities of Schwarzburg-Sondershausen and Rudolstadt, the Grand Duchy of Saxewimar, &c. Parallel to the Harz Mountains, at a distance of about ten miles from them, there stretches from west to east a calcareous ridge (shell lime), called the *Hainleite*, or *Hagelleite*, which I mentioned in this magazine several years ago (See *HORTICULTURIST*, 1861, p. 262). On the southern declivity of that ridge is the original red beech tree, still growing. The exact spot where it is standing is about five miles to the south of the city of Sondershausen, the capital of the principality of Schwarzburg-Sondershausen. The village nearest to it is Ober Spira.

Although I saw the tree often in my childhood, I did not wish to trust my memory. So many years have elapsed since that time, so many events have crossed my path of life, that I felt unable to depend exclusively on my recollections. I, therefore, applied to a gentleman, than whom, there cannot be found a better or more trustworthy authority in all Germany. That gentleman is A. F. Magerstedt, D. D., minister of the Gospel at Grossen, Ehrich, and counsellor in the highest ecclesiastical board at Sondershausen (Consistorial Rath). His place of residence is not quite five miles distant from the original red beech tree. Dr. Magerstedt is not only one of the most profound Latin and Greek scholars, having published a number of books on the agriculture of the Romans, but he is also a scientific as well as practical farmer himself. His zeal and enthusiasm to excite and promote the interests of farming and farmers is so great, that he founded the Agricultural Society at Son-

dershausen many years ago. As president of that society, he has already published twenty-five volumes of its transactions.—His work on the management of trees is considered classical, like another one on the gradual development of agriculture in the principality of Schwarzburg-Sondershausen. He is honorary member of a large number of agricultural societies in Europe, and has been honored by kings and princes with orders; and by universities and literary societies with many tokens of their respect and admiration.

To my inquiry, he replied kindly and promptly. His letter is dated January 16, 1866. His statements concerning the tree in question are so full and accurate, that it would be wrong to suppress even the smallest part of them: they cover the whole ground, and form the basis of the history of that interesting tree. They are invaluable, both for the scientific botanist and the amateur. The readers of the *HORTICULTURIST* will, I hope, peruse the translation of Dr. Magerstedt's letter with pleasure.—He writes as follows:

"That the red beech is of Thuringian origin, is shown by Dr. J. M. Bechstein, the great ornithologist. See Bechstein's *Forest Botany* (Forst-botanik), fourth edition from page 238. The original tree is growing in the forest of Oberspira, a village belonging to the principality of Schwarzburg-Sondershausen, not far from the north west corner of the *Cliff Valley Meadow* (Klippen-thals-Wiese), in the *Hainleite*, or *Hagelleite*, the ridge mentioned in the above. The tree which is an ornament of the beautiful forests of the *Hainleite*, is standing on a deep clay soil, overlaid with rich vegetable mold. The clay rests on shell lime rock. It is about 100 feet high; its diameter, from east to west, is 2 feet and 10½ inches, from south to north, 2 feet and 11 15-16 inches. Some branches appear at a height of 20 feet, but those of the true head at a height of 30 feet from the ground. The diameter of the head is, from east to west, 68½ feet; from south to north, 64 feet. The head is, at

the south and east sides, not well balanced or proportioned; it is not compact enough; at the west and north sides it is better.—The age of the tree is estimated at from 170 to 180 years. There are four common beech trees (*fagus sylvatica*) in its immediate neighborhood, nearly of the size of the red beech.

Bechstein asserts that the seed from the tree rarely produces red, but generally common beeches. Experience shows that he is not quite correct in this respect. If the nuts are taken from branches inside the tree, success is almost certain, while nuts from the outside branches are often the product of the pollen from the neighboring common beeches, yielding, for this reason, beeches with green leaves. This was proved in 1823 and in 1829, by direct experiments instituted by the Government, and corroborated in 1839; for in 1842 there were about sixty seedlings, showing the characteristics of the mother plant, growing near it, every one of which was, however, stolen and sold. In order to protect seedlings as well as grafts, nurseries have been established, so that, since 1842, the number of red beeches has very much in-

creased. Now the turnpike leading through a narrow defile or ravine of the Hainleite, called *The Geshling*, is lined with red beeches.

Those grafted on the common beech change the color of their leaves gradually, according to their increasing age; they are darker than those of the mother tree, so that some are black red. Where a number of such grafts of different ages are growing together, it is easy to observe the change of the color of the leaves, the youngest being the lightest, the oldest the darkest.

Should you wish to read all that is known and that has been done in regard to the red beech, you will find it in the Translations of the Agricultural Society at Sondershausen for the year 1842; page 65."

Many readers of the HORTICULTURIST, as well as scientific amateurs, will be very thankful to my learned friend, Dr. Magerstedt, for the pains he has taken in giving an account so full and interesting of a tree which is so widely disseminated, and which, as a *Lusus Naturae*, has inaugurated that love for similar trees and shrubs, now ornamenting our gardens, parks, and pleasure grounds.

NOTES ON THE MAY NUMBER.

ABOUT THE GRAPE.—The writer has given facts and points that may, perhaps, induce some new rules in grape locations; at the same time, he has cut so hard on some of the "grape savants," and the horticultural world generally, that I shall look to see him handled, as the boy said, "pretty severally." The grape is fast becoming a very important item in its amount of revenue to our country, and any and every fact or opinion tending to its successful culture should be pleasantly and thankfully received. If the next meeting of the American Pomological Society would appoint a committee to collate the facts obtained and opinions given relative to soils adapted to varieties as well as the uses and

values of varieties, they would do much in aid of information now accessible only to comparatively few persons.

DESIGN FOR A COUNTRY HOUSE. — The design exhibits taste, and is well drawn. I have, in previous notes, stated my doubts as to the universal adaptability of this style of architecture. On the borders of the Hudson, some points on the Ohio, sections of Pennsylvania and of Massachusetts, possibly one or two small sections of Connecticut, may, in their natural formations, harmonize with the gothic-pointed style of architecture; but, as a rule, I doubt the adaptation of the style. Another thing that in my mind opposes it is, that while it is good when fully carried out, and con-

structed of material to sustain its grandeur and beauty, cheap inch board carvings, verge boards, arches, &c., are an abomination, and result more in annoyance and cost for repairs to the owner than in pleasing association to the observer. Some years since, the Grecian column was entailed on every house, from a one-story cottage to state buildings, and with, perhaps, just as much appropriateness as any one style of architecture can be adapted to all uses and situations; yet we all know how the use of the Grecian, so common all over the country, came rather to annoy than please. I would, therefore, caution all builders to study well their natural locations, their wants and means of keeping up a style, ere adopting any design, no matter how pleasing its architectural effect.

PLAN FOR IMPROVEMENT OF GROUNDS.—A capital design, and, from description, has been well carried out. There is one thing, however, which, although it involves considerable labor, I would much like to see connected with these designs, and that is, the showing of position and kinds of the various trees. The grouping of trees, selecting forms, habits of growth, color of foliage, &c., I find one of the items wherein most planters are deficient. It requires a natural taste, and years of careful study, to enable a planter to so arrange his trees, that, with little or no care, the end of ten years will show them well and harmoniously grown and grouped. I have no doubt Mr. Baumann can do it, and suggest that he give us a little plan adapted, say, to a lot fifty feet front by one hundred deep. I recently saw grouping of trees in this manner, viz., a Scotch pine in the centre, three balsam firs surrounding, and an elm at a short distance, the gardener having obtained the idea, that there must be an unequal number of trees in a group, and that one must be planted a little away from the others. Was he right, think you?

DESIGN FOR A GRAPE ARBOR.—A very good design, and one that will well suit many places. I have no disposition to place

my design in competition, but for some years I have superintended the construction, from time to time, of grape arbors in this way: My posts are turned of locusts or cedar; sit three feet in the ground, and seven feet out of the ground; a quarter inch iron rod is sprung from the top of each post to its opposite, to form the arch, or roof; to the posts on the sides, No. 9 wire is fastened laterally, by staples driven into the post; and the same wire to the arch rods overhead, by a twist at each end, and by winding with smaller wire at each crossing of wires. This forms a light trellis; the tendrils of the grape cling to the wire, requiring little or no care in training, and there is no breaking away of slats or other woodwork.

PEARS.—*Emile d'Heyst and General Totten*—With the first-named I have some little acquaintance, and doubt not Mr. Downing's description, for we all know him in fruits to be generally correct, but he must have had the fruit in better condition than I have. My notes of it, with a shaded drawing, made two years since, place it as "*vinous*, melting, pleasant; good *second* quality."

PROPAGATION OF HARDWOOD GRAPES MADE EASY.—Thanks for this plain statement. It is one more proof that all of grape-growing has not been written in the books, and that experiments are now being made of new methods, resulting in better success than following the practise of the old guide books.

PLANTING STREET TREES.—I wish every owner of a country home could read and profit by this article, as profit he must who reads it. The filling up around trees with manure is often practised, and counted by those of little acquaintance in tree planting as the "very best way." I recently examined two trees, the owner of which wondered what had killed them. Both had a mass of manure around the crown and upper roots, the fermenting of which had affected and destroyed the flow of sap.

There is one other item in connection

with street planting of country roadsides that should be heeded, and that is the moving a fence temporarily—*i. e.*, three or four years—out on to the line of road, thereby narrowing and detracting from the appearance and value of the lands as much or more than the trees, hedges, &c., advances it. Add to this the slovenly practice of throwing all the waste brush, dead briars, &c., upon the road side, and you have a man before you that deserves preaching to, if nothing more.

CORDON DWARF APPLE TREES.—An article illustrative of the practice which the present writer has endeavored to induce some gardeners to adopt. It is even of less trouble, once the form is established, than the keeping in form of dwarf bush trees. I am glad to see an advocate, and hope, now the *HORTICULTURIST* has touched it, that gentlemen's gardeners will devote a little time to its practice.

GRAPE CUTTINGS FROM MODERN HISTORY.—The record here collated of the ca-

priciousness of the vine in France and elsewhere, is analogous to what Mr. Elliott, in his "About the Grape," would apparently have us understand, as a point to study in its culture in this country. All these records are worthy the attention of those who look to profitable results in grape growing. If that new white grape, superior to Dr. Grant's *Anna*, produces any fruit this season, I hope Mr. Reid will let us see it.

SHOULD PLANTS BE "CROCKED."—Thanks to Mr. Cowan for bringing out from Mr. Henderson this article. Although a little *crisp*, the readers of this journal have gained in getting full reasoning for a practice new to many.

NOTES ON GRAPE CULTURE.—Another collation of facts and observations of value to all grape-growers. I am glad to see this record of the quality of Rogers' 15 grape. I have no doubt this variety will prove one of very best of hardy grapes, both for table and dry wine purposes.

REUBEN.

SIR THOMAS BROWNE'S GARDEN OF CYRUS.

SEEING, MESSRS. Editors, in your well-spread and abundant TABLE for January, a tid-bit, or *bonne bouche*, from Sir Thomas Browne—for many years one of my favorite and familiar authors—I take leave to send you a brief notice of him, and of his quaint and curious work whose title I have written above.

Sir Thomas was born in London in 1605. After a liberal education at Winchester and Oxford, he settled at Norwich as a physician in 1636, and retained an extensive practice in the city and county to the end of his life. In 1641, he married Mrs. Dorothy Mileham, "of a good family in Norfolk." In 1642, his *Religio Medici* was surreptitiously printed. Even in those "dissonant times"—to use the gentle phrase of Harry Lawes, who lived in them—this book of serene wisdom found so many

readers that two editions were immediately disposed of. It came out under the author's sanction the following year, and numerous re-impressions were called for in his lifetime,

The splendid success of the *Religio Medici* most likely took its author by surprise. Though possessed of a moderate sense of his own ability, and a respectable independence of spirit, he was far above the arrogance of vanity. It may be believed that most writers who eventually attained great popularity, although they might have some instinctive consciousness of the power within them, were yet unable to guess exactly how or when it would receive a public recognition. They just let their inspiration have its utterance. Nor, in many cases at least, could they subsequently tell with precision what it was in their writings

which had fastened on them so universal a sympathy. The bond of attachment between an author and his reader may be too subtle for analysis. Perhaps, granting even a superabundance of genius, with all the acquired skill of practice, disappointment would be the fate of him who determined to sit down and compose, resolutely, a book which should *take*, as decidedly and confess- edly as the *Pilgrim's Progress*, *Robinson Crusoe*, or the *Religio Medici*.

All Sir Thomas' subsequent works were written in Norwich; and not a few minor pieces, specially local, were the results of his industry and love of letters. In 1671, he was knighted by Charles II., when on a visit to the ancient palace of the Howards in Norwich. In 1682, eleven years later, he died, after a short illness, in the 76th year of his age.

Of those productions which take high rank in a formal list of *opera omnia* the *Garden of Cyrus*, which was first published in 1658, is the least inviting, though eminently characteristic of its author, as is at once shown by the second title, namely—"The Quincuncial Lozenge; or Network Plantation of the Ancients, Artificially, Naturally, Mystically Considered." It must be regarded as one of the most fanciful of his works; and the most eminent of his admirers have treated it as the mere sport of the imagination. These are, as Coleridge says, "Quincunxes in Heaven above; quincunxes in earth below; quincunxes in the mind of man; quincunxes in tones, in optic nerves, in roots of trees, in leaves, in everything." The quinary theory of created things, as propounded by some few modern naturalists, would have been a wonderful suggestion to Sir Thomas.

The *Garden of Cyrus* is so styled because, as Browne says, "all stories do look upon Cyrus as the first splendid and regular planter. According whereto, Xenophon (*Œconomico*) described his gallant plantation at Sardis, thus rendered by Strobæus—*Arbores pari intervallo sitas, rectos ordines, et omnia perpulchre in quincuncem directa*.—

That is, the rows and orders so handsomely disposed, or five trees so set together, that a regular angularity and thorough prospect was left on every side; owing this name not only to the quintuple number of trees, but the figure declaring that number, which, being double at the angle, makes up the letter X—that is the emphatical decussation, or fundamental figure.

"Now, though, in some ancient and modern practice, the area, or decussated plot, might be a perfect square, answerable to a Tuscan pedestal, and the *quincunio*, or cinque point of a dye, wherein, by diagonal lines, the intersection was rectangular—accommodable unto plantations of large growing trees—and we must not deny ourselves the advantages of this order, yet shall we chiefly insist upon that of Curtius and Porto in their brief description hereof, wherein the *decussis* is made within, in a longilateral square, with opposite angles, acute and obtuse at the intersection, and so upon progression, making a rhombus or lozenge figuration."

With this lozenge as his sole guide, Sir Thomas starts at full gallop on his literary steeple-chase. If he halts a moment for refreshment, it can only be at the sign of the Chequers. He becomes more and more excited by the game; but diamonds are trumps at every hand. He finds even the Garden of Eden laid out in the Dutch style, and probably full of quincunxes. "Since in Paradise itself, the Tree of Knowledge was placed in the middle of the garden, whatever was the ancient figure, there wanted not a centre and rule of decussation." Of course not; where there is a will there is a way to lozenges.

Again, Sir Thomas—"The networks and nets of antiquity were little different in the form from ours at present. As for that famous network of Vulcan, which enclosed Mars and Venus, and caused that unextinguishable laugh in Heaven, since the gods themselves could not discern it, we shall not pry into it. * * * Heralds have not omitted this order or imitation thereof,

while they symbolically adorn their escutcheons with masles, fusils, and saltires, and while they dispose the figures of ermines and various coats in this quincuncial method. The same is not forgot by lapidaries while they cut their gems pyramidally or by æquicrural triangles. Perspective pictures, in their base, horizon, and lines of distances, cannot escape these rhomboidal decussations. Sculptors, in their strongest shadows, after this order do draw their double hatches."

And so on, *ad infinitum*, it might be. Sir Thomas stops only because he chooses to stop, not because he has run himself dry.—There are digressions, it is true, but not of wide circuit. We do not regret them when they contain passages like the following :—

"Light that makes some things seen, makes some invisible ; were it not for darkness and the shadow of the earth, the noblest part of the creation had remained unseen, and the stars in Heaven as invisible as on the fourth day, when they were created above the horizon with the sun, or there was not an eye to behold them. The greatest mystery of religion is expressed by adumbration ; and in the noblest part of Jewish types we find the cherubims shadowing the mercy-seat. Life itself is but a shadow of death, and souls departed but shadows of the living. All things fall under this name. The sun itself is but the dark *simulacrum*, and the light but the shadow of God."

But the moment the clock strikes five in any way, Sir Thomas is back again amidst his pentagons, quincunxes, and lozenges.—He nauseates "crambe verities and questions over-queried," and informs us that the "noble Antoninus doth in some sense call the soul itself a rhombus." This proposition is the sum of all things, and therefore, as he says "'tis time to close the five ports of knowledge" on this transcendental matter. But we cannot even walk away from his symmetrical garden without being reminded, finally, that "the incession or local motion of animals is made with analogy unto this figure, by decussative diametrals, quincuncial lines, and angles," and that even in the motions of man, the legs "do move quincuncially by single angles, with some resemblance of a V, measured by successive advancement from each foot, and the angle of indenture greater or less, according to the extent or brevity of the stride."

S. T. D.

THE CAMPANULA.

BY F. PARKMAN, JAMAICA PLAINS, MASS.

THE family of the Campanula is one of the largest among the Herbaceous Perennials, and some of its members are of remarkable beauty. Perennials, a description of plants which a caprice of fashion has for some years past thrown into the shade, are beginning, by a healthy return, to resume their natural place in horticulture. They vary indefinitely in value and character, and while some are mere weeds, others are among the most beautiful of flowering plants. We propose to draw attention to

a few of them, and we begin with the Campanulas.

There are at least a hundred and fifty species in the genus, and some of them have many varieties ; so that of the Campanulas it may be said that their name is legion. Some are perennial, some biennial, some annual, some are hardy, and some are tender. There are several allied genera, such as *Adenophora*, *Wahlenbergia*, *Platycodon*, and *Canarina*, which some botanists merge with the Campanulus, and which have so close an

affinity with them, that for horticultural purposes they may be regarded as one. We will therefore consider them all under the same head.

Perhaps the best known of the whole race is *Campanula Medium*, the familiar Canterbury Bell. It is a biennial, and must be raised every year from seed. There are at least five or six varieties of it :

First, the original species, the old blue Canterbury Bell; then the white variety; then the lilac; then all these sorts, double. The double kinds are, to our thinking, less to be desired than the single; for, with them, the concavity of the bell is stuffed with what looks like a confused mass of crumpled petals, which destroy the peculiar beauty of the flower. Unlike many other double flowers, they yield seed pretty freely, and this seed produces a good proportion of double-flowering plants. Canterbury Bells thrive best in a rich garden loam. They should be raised from seed in a greenhouse or hot-bed, and planted out in May where they are intended to bloom. Treated in this way, they will make a very strong growth during the season, and the bloom will be proportionally fine. Or they may be sown in the open border in May; but in this case, neither the growth or the blooming will be so vigorous.

There is another *Campanula*, much less known than the Canterbury Bell, but exceedingly fine and well worth cultivation.

We are in doubt whether to call it a true perennial or not. On one occasion, after blooming properly in the second summer, it died like a Canterbury Bell; but, on the other hand, we have now a bed of it which has remained in fine blooming condition for several years, and promises this season an abundant crop of flowers. This species is *Campanula Macrantha*. The flowers are large, elongated bells, of a deep purplish blue, growing in tall spikes, somewhat like a Foxglove, and the plant, when in bloom, has much of the same stately character. It is exceedingly well worth cultivating.

Campanula punctata, sometimes called *Campanula nobilis*, has long, drooping, tubular flowers, which, in one variety are purple, and, in another, white with purple spots. The latter are very beautiful, hanging in clusters from stems some two feet high, and drooping with their own weight till they are almost vertical. This species, like many others, is easily increased, by dividing its creeping roots; but the best plants are those raised from seed, which flower vigorously the second year. *Campanula punctata* is a true perennial, and has proved, with us, perfectly hardy.

Campanula trachelium, and *Campanula rapunculoides* have no little beauty, and would be well worth a place in the garden, were it not for their vicious habit of throwing out long, underground roots, which, if left undisturbed, would take possession of the entire bed. These roots insinuate themselves among those of other plants, grow up under their shelter, and commonly end by overpowering and destroying them.

Campanula persicifolia is entirely free from this propensity; for though it increases fast by its offsets, its growth is open and above-ground, and never becomes a source of annoyance. It is, moreover, one of the most beautiful of the family. There are at least seven varieties of it worthy of notice; the single blue, the single white, the large flowered blue, or *C. persicifolia maxima*, the two double varieties, blue and white, and lastly the two *crowned* varieties, *C. persicifolia coronata*, blue and white. These are, in fact, semi-double, and are of beauty not inferior to the double sorts. The last are less vigorous in growth than the other members of the family, and the double white variety is occasionally winter-killed in New England. Like other *Campanulas*, they thrive in a good garden loam, well enriched with rotted leaves and very old manure, and are easily increased by dividing the roots in August or September.

Campanula Carpatica is a low-growing kind, sometimes used for edging, a purpose

for which its neat, compact foliage, and the beauty and profusion of its bell-shaped flowers very well adapt it. There are blue and white varieties, and also a cross between the two, known as *C. Carpatica bicolor*, though the name is inappropriate, for the colors, instead of being distinct, are merged into one,—a white, faintly tinged with blue.

Campanula pyramidalis is, when well grown, a superb plant. It has a thick, fleshy root, a rounded or heart-shaped leaf, and immense spikes of bloom, shooting up from the crown of the root to a height of five feet and sometimes more, and set thickly with flowers from the summit nearly to the base. A strong plant will produce six or eight of these flowering stems. As the flower-buds are innumerable, and as they develop in succession, flower succeeding flower along the whole length of the spike; the bloom is of great duration, continuing for weeks together. This Campanula was once in great request as a decoration of halls, staircases and the capacious chimney corners of English country-seats of the last century. Nor is it yet out of favor. Not all the exotics which English horticulturists have gathered from the four quarters of the globe have availed wholly to supplant it. It requires good culture to develop all its beauties. The best plants are raised from seed, though it may also be increased by cuttings of the roots. In the open border, it makes a handsome and effective decoration; but to be shown to the best advantage, it should be grown in a pot. The young plants, from the seed-bed may be potted in a four-inch pot—or smaller, if necessary—in a soil rich in vegetable matter, but with little or no animal manure. As the roots fill the pot, shift them into one a little larger, and repeat this process until the plant has reached its full growth. In this country two summers will suffice for this. In England,

more are said to be required. The object of this repeated shifting is to prevent it from blooming till it has reached its greatest size and strength. In winter, it must be sheltered in a cold frame or cellar, and kept moderately dry, but, during the growing season, it demands an abundance of water. When its maturity is reached, you will have a dense tuft of vivid green leaves, some two feet in diameter, whence the flowering stems will soon begin to rise. These may be trained with sticks, in a fan shape. *Campanula pyramidalis* is not perfectly hardy here.

Among all the Campanulas, we prefer the species *Grandiflora*, called also *Platycoden Grandiflora* and *Wahlenbergia Grandiflora*. In Europe, it is greatly esteemed, but is said to be very scarce, from the difficulty of propagating it, as it rarely ripens seeds there, and its fleshy roots bleed so profusely when divided, that they commonly die. Here, however, it ripens seeds freely, and is certainly destined to be a favorite border flower. Its foliage is compact, and it has always a neat, clean and healthy appearance. It grows about two feet in height, and, in the blooming season—June and July—hangs out a profusion of very large bells, of a deep purplish blue in one variety, and, in the other, of a pure white. There is also a “crowned” or semi-double variety. The buds are peculiar, and almost as beautiful as the flower, being shaped like balloons. We have never known a single plant of this species to suffer from a New England winter.

The above, we think, are the best of this very beautiful family. There is a host of others, including the small Alpine Campanulas—gems in their way, but which require the winter protection of their native snows, and several fine annuals, among which *Campanula Lorei* and *Campanula speculum* will deserve to be mentioned.

INSIDE GRAPE BORDERS.

BY J. S. HOUGHTON, PHILADELPHIA.

IN the culture of foreign grapes, under glass, it has been thought that borders entirely inside the house promised advantages over outside borders, or borders partly outside, which rendered such borders worthy of trial, especially in the case of late grapes. Inside borders are, of course, entirely protected against the influence of storms at all times, and the plants may be started or checked at will. If late grapes could be successfully grown in them, the fruit might be kept for many weeks on the vines after the natural period of ripening, without danger of being injured by the autumnal rains, and the crop would then be quite as valuable as early forced grapes. Very extensive and costly experiments having been made with inside borders in the neighborhood of Philadelphia, I have thought it might be useful to record the result of these trials, for the benefit of grape-growers generally.

The plain fact, then, is, so far as I have seen, that the inside border here is a lamentable and singular failure.

Reasoning from all that we know of the conditions necessary for the growth of the vine, and from its success in pots, no one could anticipate such complete and uniform failure as has attended its culture here in inside borders. The vine may be grown with a great show of success for one or two years in such borders, by the aid of plenty of water and a high temperature, but as soon as they begin to fruit, they decline and die most mysteriously. In five or six large grape-houses within my knowledge, this has been the certain result. These houses were built by Thomas Drake, Lewis Tawes, and Peter Keyser, Esqrs., of Germantown, William Bright, and myself.

In all these houses the floor under the borders was made of solid concrete, or bricks, impervious to water, and in several instances the borders were separated from

the side walls by air chambers. In some of them air was conducted under the borders by flues, and two or three of them were entirely separated from the floor by four-inch brick work, with the idea of giving them some bottom heat. The suspended and aerated borders proving failures, the air conductors were in several instances removed from the bottom of the pits, and the borders were placed directly upon the concrete (good drainage being provided), but with no better success. The most ample provision was made for watering the borders, by means of large rain-water tanks, force pumps, evaporating troughs, and concrete paths kept constantly wet in hot weather.

In borders of good size, the trouble and expense of watering inside borders is not the chief objection. The watering is a formidable job, even with the aid of a large tank and force pump, but this could be endured if the borders would answer the purpose. The question of watering, however, is a very perplexing one. How to water, when to water, how much water should be used, and of what temperature—these are questions not yet satisfactorily answered, although we have tried the extra wet method, the partially dry method, water at 55°, and water at all temperatures up to 140°. But nothing that can be done by the most skillful will make the vines grow in such borders after the second or third year, especially after fruiting. They appear to sicken and die, and refuse to be comforted or relieved by any appliances of water or manures that have yet been tried. The roots, in almost all instances, become black and cankered, and no new or healthy fibres can be discovered.

This disease of the roots is not occasioned, in all instances, by over-rich borders, or by over-manuring, for some of our experimenters have gone to the extreme in mak-

ing poor borders (for late grapes of strong growth), composed of rotten rock, sand, plain loam, lime rubbish, &c., with only a little wood ashes and pure bone dust. But no kind or quality of border appears to answer when entirely inside the house, and separated from the earth by a concrete bottom.

Now, what is the cause of this general failure of inside borders? The vine will thrive for many years, if not over-cropped, in a common pot; then why not in an inside border, which is in fact only a large pot? I have contended for six years that an inside border *must* answer, but I am compelled to give it up now. I have tried the inside border in all shapes, and with the most skillful management, but it will not do. It looks reasonable that a vine should do better with its roots all inside the house, perfectly under control, than with part of the roots outside, exposed to very different degrees of temperature, moisture, &c. But the facts condemn the reasoning.

The causes of this general failure of inside borders I cannot understand. The effect of constant watering which such borders require may be injurious. It may make the borders "sour," as gardeners say. I have also thought that separating the borders from the earth by means of concrete, prevented the soil from receiving some natural moisture by capillary attraction; and perhaps, also, some magnetic or electric influence from the body of the earth which may be necessary to the life of the vine. The size of the borders has evidently no influence in producing the failures, as they are never filled with roots, and therefore are not exhausted.

I have been told that inside borders have been much employed about New York city, but with what results I have not learned. I should be much pleased to see reports of the working of such borders there or elsewhere.—*Hovey's Magazine, February.*

MATERIALS FOR FRAME OF ROOF AND SIDES OF GREEN-HOUSES.

As to whether iron or wood is most economical and best for flowers and vines, provided the rafters are made light, we would unhesitatingly prefer wood, as preferable in both respects. In a wide house, and where lightness is an object, we should prefer the necessary pillars, and even small rafters, being of iron; but as a general principle, for everything connected with the roofs of plant-houses and forcing-houses, we prefer wood to iron. True, some of the finest productions in the country are grown under iron-framed houses, but that does not prove iron to be the best material. Its liability to rust, and, therefore, the need of painting oftener, and consequent extra expense, and its heat-conducting properties, which cause it to be so hot in summer, and so cold in winter, occasioning often additional expense for fuel and glass, crackage and breakage, ought to

be thought over by every man putting up iron houses. We know that when kept well painted these evils are lessened, but not removed. And then, suppose you cannot, or do not choose to paint the interior of your house often, the drip from unpainted wood will do no harm to your plants, but from unpainted rusted iron it leaves its scathing mark wherever it falls. A number of years ago we were consulted as to building a conservatory. The owner had set his mind upon iron, as more lasting, &c.; we urged all these matters in order to have wood, but when we could not positively state that the expense of the iron would exceed that of wood, in the article of fuel alone, £20 per annum, it was decided to have iron, and there it is incessantly getting rusty on the roof, and the drippings spotting every leathery leaf on which it falls, it being scarcely possible to keep such plants as

Camellias in a healthy state beneath it. Then think, too, of the bother of ever and anon emptying houses to get the inside painted, which you must do *often*, in the case of iron, if it is to be kept from rusting. A wooden roof, when well done, does not require painting inside so often in a lifetime, if frequently and properly washed. Then, again, as to the expansion of the metal, and the breakage of glass in consequence; we know that much depends on the glazing, giving the glass ease enough, but in a house well painted the previous summer, and so far neutralizing its conducting properties, we

have gone out on a cold, frosty night, when there was just enough of heat to keep the temperature a little above freezing within, and have heard the panes crack and chip in dismal chorus, when those under similar circumstances on a wood roof never made so much as a chip. In such houses, where no heat was applied, the matter was even worse, though wood roofs wholly escaped, where there were no large laps in the glass. Good, sound *deal*, say we, for all dimensions and kinds of glass roofing.—*Manuals for the Many.—Greenhouses.*

FORCING STRAWBERRIES.

BY GEORGE CRUICKSHANKS, ST. JOHNSBURY, VERMONT.

IN detailing my method of forcing the strawberry, I have nothing new to offer; still, as some of your amateur readers may wish to practice this mode of culture, I may be excused if I add nothing to the knowledge of the practical gardener.

Plants for forcing are usually obtained from runners from old plants. The earlier in the season these can be procured, the better; and it is also important that they should be taken from none but vigorous plants in the open ground, preferring a young plantation to an old one, as the former generally produces, the most vigorous runners. As soon as the runners have pushed one joint, have ready a number of 3-inch pots, filled with rich, light soil.—Plunge the pots to the rims in the ground near the old plants, so that the joint of the runner may come over the centre of each, and place a small stone upon them, to keep the plant from being displaced until rooted.

Unless there is a scarcity of runners, take only one plant from each, thus securing all the strength to the one in the pot. As soon as the small pots are well filled with roots, the plants should be shifted into their (6-inch) fruiting pots. In doing this, use the following soil: Two parts good turfy loam;

one part old hot-bed manure. Place one crock in each pot, and cover the bottom with the coarsest of the compost. Fill the pot with the finer material, leaving room enough at the top to hold water. The plants should then be placed in the shade for a few days, until they recover from the repotting, and then plunged in some open airy situation, where they can have the full benefit of the sunlight. A vigorous growth at this season will ensure a future fine crop of fruit.

As cold weather approaches, the pots should be moved into a frame, or house, and kept from freezing—some place where they will grow slowly all winter, until required for forcing.

About the 1st of February, I place the plants in a span roofed orchard-house, on the west side, near the glass.

The forcing is commenced with a night temperature of 40° to 45°, syringing every pleasant day, until the fruit begins to color; even while in flower, use the syringe freely, which will cause the berries to set better. When the fruit begins to ripen, the temperature should be raised from 50° to 55°, giving all the air possible in fine weather. By

following this process, I this year had ripe fruit March 28.

The sort cultivated was *Triomphe de Gand*. The photograph sent you was taken, May 5, of a plant in fruit, on which were fifty-three berries, eight of them fully ripe, and some of them measuring $1\frac{1}{2}$ inches in diameter. This was one of one hundred pots, many of which had larger fruit.

In order to be successful in forcing the strawberry, it is important that the following conditions be complied with:

First—Propagate from strong, vigorous plants in the open ground.

Second—Give all the light and sun possible, after being placed in the fruiting pots.

Third—Place the plants where they will not freeze, but be kept growing moderately until they are removed to the forcing-house.

Fourth—When introduced into the forcing-house, the night temperature should not at the commencement, rise above 40° or 45°, gradually increasing to 55°, as the fruit ripens. The day temperature, by sun heat, may rise to 75° or 80°, giving an abundance of ventilation.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

HINTS FOR AMATEURS AND OTHERS.—BY AQELLULUS.—A good many are disappointed, when they open the boxes or packages of plants, they have ordered from nurserymen. I do not now mean disappointed on account of the nurseryman's not having sent what was ordered, or his having sent, what is worthless. The disappointment I refer to, is that in finding the plants in a bad state, viz., dry, branches broken, &c., the fault is sometimes in the nurserymen—they don't pack well enough, sometimes with the expressmen and the U. S. Mail carriers, they forget to "handle with care;" sometimes both are faultless, and the damage is caused by the far distance the plants have to be sent.

Disappointment is an evil, and the hints I offer will, in many cases, remedy the evil.

Your strawberries you find "pretty dry;" don't despair! don't throw them away; don't plant them immediately, but take them to a shady place, and plunge them in water. Let them lie a good while, and you will soon see them all, or most of them fresh; then you may plant them.

This will apply also to other plants, roses, geraniums, &c., &c., but some plants will require more time to lie in water. You must then wait a little longer.

I once received from a friend, living at a great distance, a very rare plant. The friend did not think of packing very carefully. He put a little earth around the roots, and wrapped it in paper, and mailed it. Well, when he packed it, the earth was wet enough. But the mail! When I opened the package, I found a good deal of dust and a few black things, that seemed to have been plants at a former time. I did not despair; I got a tumbler of water, and put the whole mass therein. The next day I saw by means of a microscope, something green, but very small. I waited a while and then planted, giving plenty of water.

I have just read, in a horticultural paper of the old world of two cases, which, I hope, your readers will find very interesting. They are narrated by a highly educated gardener. In a part of his garden where

—in the month of April—roses had been planted, he found, after two months, one plant that had been forgotten, to be planted out, and therefore was quite dry. He put it in water, in a shady place. Six week's having elapsed, he found new white roots and green sprouts.

In the month of July, the crown of a high-growing Remontant Rose was broken off by the wind. It was, when found, quite dry, having been exposed to the sun and wind during six weeks. He put the crown (which had had thirty to forty flowers) in water. After three weeks he found life, whereupon he cut it in pieces, both the old and the young wood, and planted them in an old hot-bed. Most all of them grew.

SKILFUL GARDENERS.—We hear frequent complaints from correspondents relative to the blundering and unskillfulness of their so-called gardeners. We say *so-called* gardeners, because we know there are a great many really intelligent men in the class of gardeners who deny these pretenders as much as we can. As a class, we do not believe there are a greater proportion of pretenders among gardeners than among lawyers or doctors, &c.; and we do know that there is in gardening a constant incentive to attain more and more knowledge, by him who has studied even to the point of a passable cultivator. As the gardener rises in knowledge and position, horticultural science multiplies its inventions, and demands from him more and more study and observation. Changes and improvements constantly press downward upon the gardener wanting in a love of knowledge, while they assist and heave upward the student. That there are too many unskilled men who pass themselves off upon the uninstructed amateurs we acknowledge; but, as the amateurs become more and more conversant themselves, these pretenders will be reduced in numbers. We must not decry the profession, for it is a noble one; but we, and all true gardeners, must discountenance all and every unskilled pretender, until they

assume their proper places, and seek, by study and practice, to acquire a knowledge fitting them to enjoy in reality their present assumption.

WE HEAR frequent complaints of the exorbitant prices demanded for new varieties of fruits and flowers, as they appear in market. Probably, in some instances, these prices are excessive; but it must be considered that the cultivator who brings forward these new plants has spent years, and much care and labor in producing them. If they possess merit, it is only fair that he should receive some remuneration for the time and labor expended. This must be done in two or three seasons, for then they will be in the hands of other propagators, who will divide with him the profits, and diminish the amount of his sales, and bring down his prices. There are many persons who cannot afford to pay these high prices. In a few seasons, however, they will be reduced so as to come within the reach of all who desire to possess them.

RHODODENDRON beds should now have a mulch of leaf-mold, chopped straw, the refuse fine chips or dirt of a woodyard, or its equivalent in vegetable matter, placed all through and over the bed to a depth of three to four inches. Remember that, although some of the varieties are found growing wild on mountains, and in clefts of rocks, &c., yet all such positions, on a close examination, will be found ever moist and cool for the roots, hence their cultivation in our gardens should be measurably to the same end, and no better way do we know of than mulching with vegetable debris.—Some writers have urged the use of animal manures, well rotted, around rhododendrons and other evergreens. We have used it; and while it, at the time, appears to give additional vigor and rapid growth, the result, finally, has been to give to the plant a more immature habit, and less capability to withstand the extremes of temperature.

CUCUMBERS may be planted any time before the 10th of this month, July, and produce abundance for pickling. The white spine is the best variety we have grown for such use.

ALL HERBS should be cut from time to time, just as they are coming into bloom. Spread them out to dry in a shaded place, and as soon as dry pack them away in *paper* bags.

STRAWBERRY beds, as soon as they have done fruiting, should be thoroughly weeded out, and the present paths or spaces deeply spaded. If the plants are kept in hills, then work the ground all among them.

THE bearing stems of all Raspberries, except the ever bearing kinds, should be at once cut away as soon as they have done fruiting. Blackberry plantations are also much easier handled by cutting the bearing canes away immediately after they are done fruiting.

RASPBERRIES and BLACKBERRIES are among the fruits of this month. We will thank our friends for notes thereon, forwarded as soon as made.

CHERRY, plum, and pear trees may be budded this month. Much, however, will depend on the stock, as well as the season. If the weather is wet and cool, and the stocks are growing vigorously, it may be as well to wait awhile. If the weather is dry, and stocks are about closing their growth, the sooner the bud is inserted the better. When the Mahaleb Cherry is used as a stock for the cherry, it may, perhaps, be as well to omit budding until early in September; but if the Morello is used, now is the time to bud.

With the pear, if the quince is to be the stock, budding may be omitted a month; but if the pear stock is used, the last of this, or first of next month will be late enough.

"PRUNING TREES TO LET THE SUN IN."

—A few days since, happening through a friend's young orchard of apple trees, we found them all pruned, with the heads, or leaders, mostly cut out, and the bare branches and centre of the tree fully exposed to the full blaze of the sun. We asked the why, and our answer was, "It was done to let the sun in." We said nothing, but thought to ourself that, in this clear sunshiny clime, where shade is essential to vegetable life at mid-day, our friend must have been conversing with some old country gardener, whose practice had been in a clime of moisture, and where to obtain sun, not shade, was a part of his routine.—As a rule, more injury than good is done by this severe pruning. Cut away all crossing branches or twigs; shorten in all that incline to grow too strong, and throw the tree out of shape; cut away some few little weak shoots; and then throw away your knife, rather than mutilate the tree by cutting its limbs, and causing it to try for its life by sending up watersprouts.

DAHLIAS require care this month. If you want the best flowers, tie the rising plants to a stake, removing all but a single stem; and if they show flower ere the weather becomes cool, remove the bud. If you want a profusion of blooms, rather than particular forms, then peg down all the branches, and head back the leader, thus forming a mass, which, if carefully attended, soon becomes very effective. The best manure or stimulant to growth that we have ever used is soap suds water, and chamber lye mixed, four of the former to one of the latter.

CARNATIONS AND PICOTEE PINKS should now be layered. Bend the branch down, make the incision, cut on the upper, instead of the under side, peg it carefully, cover an inch with sharp sandy loam, then mulch with some neat material that will not be blown aside by the first wind.

HOLLYHOCKS should be firmly secured to stakes, well driven into the ground.

CREEPING PLANTS, such as honeysuckles, wistarias, &c., require to be occasionally gone over at this season—trained, tied, and an occasional shoot nipped in, to keep them neat, and give strength to the remainder.

ICE WATER.—Some years since, we remember, a statement, to the effect that a lump of ice—say ten pounds—placed in a well, will render it delightfully cool, and far more pleasant than water from a pitcher of ice. The ice has to be renewed once in about ten days.

TOMATOES may be trained on a wall, or board fence, with little trouble, and give in return an abundant crop of fruit. In the garden, a low lattice rack—say two feet high, and the same wide—we have found a neat and profitable way of growing them.

DORMANT TREE.—Record is made of a tree planted in the fall of 1838, which remained dormant until June, 1840, when it shot out, and made fine growths. We have frequently had trees remain dormant until July or August of the same year of planting, and once a peach tree pushed no bud until the 3d of September; but this is the only instance we know recorded where a tree has retained vitality in a dormant state during two winters and one summer.

How far long pruning and wide planting may be profitable we imagine is yet an unproved item; but this looks to us as much an extreme as the practice of three by three or four is the other way.

SALT FOR MILDEW ON THE GRAPE.—Looking over some old journals, we came across a statement of the use of salt as a preventive of mildew on out-door and vineyard grapes. The practice was a solution of salt in water, *just sufficient to be perceptible to the taste*, and syringing the vines two or more times with it. We would like to hear of its trial and the results on some such variety as the Yeddo, or other mildew-determined sort.

THIS AND THAT.—The other day we were reading the transactions of the Eastern Penn. Fruit Grower's Society, at their January, 1866, meeting, where we found Mr. Crucknell said "pears worked on quince stocks could not be depended on to live longer than about twelve years. Mr. Meehan said the object of dwarf trees was to obtain fruit earlier than when on standards, and that it was never expected the trees would live to a great age." Now, this may be all correct, but we have ourself pear trees worked on the quince that we planted out from the nursery in 1847, and they are now vigorous and healthy. We have frequently visited gardens where pears on quince roots were grown, among others, that of Mr. Wilder, Boston, and have found trees varying from twenty to forty years and more old, and in good vigorous bearing condition. Our belief is, that with judicious care in pruning and culture, pears worked on quince will continue good one hundred or more years.

COPING FOR GRAPES.—The plan of protecting grapes from dew and rains, and thereby prevent rot, we believe was first tried by Mr. J. Van Buren, of Georgia, in 1852. By some the practice is claimed as a successful and valuable one, fully repaying in one season the cost of erecting; others say it is of no value.

SIXTEEN AND A HALF FEET APART.—At the last winter meeting of the New York State Agricultural Society, Mr. Lay, of Greece, Monroe County, reported his vineyard as being planted sixteen and a half feet apart, and trellised eight feet high. He claimed for this distance immunity from diseases and permanency of vineyard.

TRADITION curiously hath it, that the tree from which Zaccheus saw our Saviour whilst on his way to Jerusalem was the *acer pseudo platānus*, or English sycamore.

ADVICE GRATIS.—If you are about building and improving a new place, consult your architect in the design and character of your house, and call your architect and your landscape gardener together, that they may consult as to the position for placing the house in the grounds.

The architect may be a landscape gardener, but, as a rule, the study of architecture has swallowed or detracted from that of tree and plant, hence it is found, that while as an architect he may design an elegant edifice, it may not be in the best style for the surrounding country. He may also know when the position on the grounds will show his house to the best advantage; but it may be the worst position for the landscape gardener to arrange his grounds to produce the best effect. If about to build, then call together the aid of both architect and landscapeist—consult them together, for money expended before making a move, and for such purpose, proves the best part of an investment in building and planting.

CALCAREOUS SOIL FOR DRY WINES.—In 1834, a little work was published in London, written by James Busby, and giving an account of the vineyards of Spain and France. He gives an account of the "Hermitage" vines, and mode of making wine, &c.

In speaking of soils, and the wines produced therefrom he says: "I met with no vineyard producing dry wines of reputation, which was not more or less calcareous."

In the same work the system of renewal of the vine by layering, as recently advised by Doctor Schroeder, is described, and there called "provignage."

PROGRESS OF VINEYARDS.—In 1840, the lamented A. J. Downing, first editor of the *HORTICULTURIST*, estimated the vineyards of the States at 3,000 acres. May we not now estimate them at 100,000 acres? What say our grape men?

HUSMANN'S "GRAPES AND WINE." — Readers of the *Horticulturist* will remember Mr. Husmann, of Missouri, as the author of frequent articles on grape culture, in that journal, for a year or two past, remarkable for sensible suggestions and practical information. Mr. Husmann, who is a resident of Hermann and, we believe, one of the oldest wine-growers in the United States, has written a book on the Culture of Grapes and the Making of Wine, which has just been published by the Woodward, 37 Park Row, this city.

Mr. Husmann's book is very clear, plain and practical. He gives full and explicit directions for the planting, culture and general management of a vineyard; discusses the merits of the different varieties of grapes now used here; and finally gives the most detailed and practical directions for wine-making. At the close of the book are a number of estimates or statements of the cost of planting a vineyard with different varieties of grapes. We have no doubt these tables will have practical value to any one who will bear in mind that Mr. Husmann writes in Missouri, where wood is cheap, and where probably some of the required operations can be more cheaply performed than in the eastern states. Mr. Husmann writes in the spirit of a real lover of the vine, and his book contains a considerable mass of information which will interest the intelligent general reader, as well as those who think of trying the culture of the grape.

Ten years ago, Mr. Husmann tells us, there were not more than three or four thousand acres planted with vines in the United States; now he believes there are not less than two millions of acres so planted. Formerly American wine went a begging at one dollar per gallon; now it sells, as fast as made, for from two to six dollars per gallon. In 1854 not more than two thousand vines were grown and sold in Hermann; last season two millions of plants were grown and sold in that place alone, and the demand was not nearly supplied. The last and perhaps the most important sign of the rapid increase of vine culture in

this country is Mr. Husmann's book itself, which concerns itself with the grape chiefly as planted for wine, and not as a market fruit.

His objects are "to make grape-growing as easy as possible," and "to give such simple instructions about wine-making and its management as will enable any one to make a good saleable and drinkable wine, better than nine-tenths of the foreign wines which now sell for two or three dollars per bottle." He has accomplished his purpose very well indeed.—*Evening Post*.

INDIANA STATE BOARD OF AGRICULTURE.—*Secretary's Office, Indianapolis, Jan. 6, 1866.*—The State Board of Agriculture, at its January meeting 1866, adopted the following preamble and resolutions:

Whereas, it is a notorious fact that the present Commissioner of Agriculture has totally failed to satisfy the just public expectation in the administration of the Agricultural Bureau; therefore,

Resolved, That in the opinion of this Board, the interests which the Bureau of Agriculture was intended to promote, would be materially benefited by the removal of Isaac Newton, and the appointment of some competent, educated and practical Agriculturist in his stead.

Resolved, That the Secretary of this Board be, and he is hereby directed to furnish the President of the United States and the Secretary of the Interior, with copies of these resolutions.

I certify the above preamble and resolutions to be a true copy, from the record of the proceedings of the Indiana State Board of Agriculture, made this 6th day of January, 1866.

MAJ. S. FISHER, *President*.

W. H. LOOMIS, *Secretary*.

INDIANAPOLIS, Jan. 5, 1866.

THE INDIANA STATE POMOLOGICAL SOCIETY, at its January meeting, 1866, unanimously adopted the following:

Whereas, The results of the labors of Isaac Newton, the present head of the

Agricultural Bureau at Washington, have fallen short of the reasonable expectations of those whose interests he represents;

Resolved, That the views of this Society be presented to the President of the United States, through our delegation in Congress, with the respectful request that a man better fitted be appointed for the place.

I. D. G. NELSON, *President*.

GEO. M. BEELER, *Secretary*.

From time to time, since the present Chief of the Agricultural Bureau has occupied his position, various agricultural journals throughout the country—as the *American Agriculturist*, *Rural New Yorker*, and other leading and influential papers, have given the public specimens of the learning and scholarship displayed by the Chief, some of which we have copied for the benefit of our readers. It is now our pleasure—and our mortification, also—to present to our readers one or two examples of his ability and qualifications for the distinguished position he occupies, which have not before been made public. We have it from a source eminently to be relied upon, that the Commissioner was engaged in writing a statement concerning sugar cane seed, and being called away from his desk for a few moments, one of the clerks made a glance at his unfinished manuscript, and found he had written it *Shuger cain seed!* And we have ourselves seen a communication, bearing the autograph of Mr. Newton, in which are declarations exhibiting ignorance upon common farm matters which, if made by a farmer boy of fifteen, would be inexcusable! And yet, such a man—one who has not the remotest conception of the duties of his office, and whose ignorance and incompetency would have caused his removal long ago, had it not been for personal friends in high places who keep him in office—is allowed to disgrace the important position which should be filled by a man of learning and good judgment, one of broad and enlightened views, and of some executive ability.

The farmers, it is true, have no representative at Washington to look out for their interests—but thanks to an independent and honest agricultural press, they are beginning to get their eyes opened to their true interests in this matter. Through the press and the State Agricultural organizations, President Johnson shall know that the farmers of the United States demand the removal of Isaac Newton from a position he has not the ability to fill. The Ohio, Indiana, and Illinois Agricultural and Horticultural Societies have passed strong resolutions demanding this. The Maine Board of Agriculture—now in session in this city—will, probably, do likewise, and their action will be followed up by New York, Wisconsin, and Michigan, by the Massachusetts Board of Agriculture, and the New England Agricultural Society. We will compel President Johnson to notice us and heed our complaints.—*Maine Farmer.*

NEW BRUNSWICK, May 10, 1866.

Whereas, the New Jersey State Agricultural Society have learned that the State Board of Agriculture of the State of Massachusetts, at a meeting held on the 15th day of February last, had taken certain action as to the office of Commissioner of Agriculture in the Bureau at Washington, and by resolution passed at such meeting, earnestly requested the President of the United States to appoint some one to that office who, from his practical and scientific attainments, sound judgment and discretion, may commend himself to the respect and confidence of the intelligent farmers of the country, and wisely promote the agricultural interests of the United States. And, whereas, this Society has also learned that this action has been endorsed and seconded by many other States of this Union, Therefore, be it Resolved, that the New Jersey State Agricultural Society do most cordially approve of the action of the State Board of Massachusetts in the premises, and earnestly and respectfully commend

this matter to the attention of the President of the United States.

Resolved, That the Secretary of this Society be directed to transmit a copy of these resolutions to the President of the United States, and to the Secretary of the Interior.

A true copy.

WM. M. FORD, Recording Secretary.

MR. EDITOR:

I have never yet seen an article giving instruction as to the best method of packing grapes for market in any of our agricultural or horticultural papers or magazines. Last Fall I lost two hundred pounds of Delaware grapes from bad packing, and am now indebted to Mr. Josiah Carpenter for what knowledge I have on the subject,

Thinking that among the many members of the HORTICULTURIST family there may be some one who may have a crop of grapes to sell this fall, and who may be as ignorant of the best way of packing them as I was myself; and if there is such a one, then, Mr. Editor, this article will be worth to him what some of the articles in the HORTICULTURIST are worth to all its subscribers—more than the cost of the magazine for a year.

First, then, a box, twelve inches long by nine wide, and three and a half or four inches deep, if carefully packed, will hold ten pounds, and is the best size for market.

Now the packing: first, select the largest and most compact clusters; take off the bottom of box and nail on the top; lay tissue, or white printing paper, to cover the inside of top; then pack in the selected clusters, turning the stems inward, taking care to get them as compact as possible, without crushing the berries. After the top is thus carefully packed, fill the box a little more than full, using the small to fill all spaces between the larger clusters; then press down carefully, using the bottom board, and nail it on. If they are well packed, there will be no movement of the grapes on shaking the box, and on opening from

the top, and removing the paper, the fruit will present a solid surface of berries, no stems to be seen. Grapes so packed are in the best possible condition to carry and to sell. If the fruit is intended to be sent any distance, then these boxes must be packed in crates holding nine boxes. The ends of the crates must be solid; the sides, bottom, and top formed of slats, two inches wide, and half inch thick; the spaces between slats about two inches in width.

What is most wanted by grape-growers who market their fruit, is a cheap box that can be given to the buyer of the fruit.—why cannot our box-makers offer us as cheap a box in proportion to size and strength, as they now make for strawberries, &c.?

Surely there would be a great demand for them, and it would constantly increase, as many who now make wine of their grapes would send them to market, could they get a box that they could afford to give away. As it is, the boxes cost from twenty-five to thirty cents each. They cannot all be collected by the commission merchants, and if they could be, they are stained, soiled, and are soon broken, so as to be useless.

Would not such a box be the best in which to send cherries and plums of extra quality to market?

Your's respectfully,

C. J. MAY, Warsaw, Illinois.

OFFICE OF SOUTH SHORE WINE Co.,
North East, Pa, April 3, 1866.

Messrs. EDITORS:

GENTLEMEN—I was quite amused at the remarks of your correspondent in the April number, regarding box or "basket layers" for immediate fruiting.

Early fruiting in vine or tree is very desirable, but to produce a good vineyard or orchard in much less time than is ordinarily required to bring vigorous trees taken from the nursery at four or five years of age, or well-grown hardy vines of one year's growth, into bearing, would, in my judgment, be a

slight innovation upon the laws of vegetable physiology.

Your correspondent is not the only one who has been sadly disappointed in their expectations of *very* early returns for considerable sums invested in basket layers.—Some of these disappointed amateurs are doubtless less inclined than your correspondent to publish their folly, or to admit that they have been made the victims of so simple a sell, and yet he doubtless discovers the true moral courage in his endeavors to save others from being so cruelly humbugged.

It certainly is your duty, Messrs. Editors, "as much as in you lies," to protect the uninformed and inexperienced undertakers in horticulture, and to save them from the devices of crafty speculators, since it is found that there are some such to be encountered, even in this sacred calling. Nor are editors of horticultural journals inclined to neglect this weighty obligation, as their readers can abundantly testify; and certainly this service has not been overlooked by the Editors of the HORTICULTURIST.

The writer says he "has suffered some."

Is any one curious to know just how much he has suffered? I think I can determine the sum, or very nearly. A good, strong, well-grown yearling plant can be grown for about ten cents; and as the cutting or bud, except of the "new and rare" sorts, can be obtained for about half a cent, such vines ought to sell for something less than twenty cents; and, as this is the true and most valuable vine for vineyard or garden, I am led to conclude that your correspondent is out of pocket about five dollars and eighty cents, besides express charges, which would range from one to four dollars, according to distance. So, then, I do not hesitate to affirm that this earnest seeker for "an early fruiting vine" should have had, or might have procured for the net cost of his "promising box," or "basket layer," from ten to fifty (according to the variety) better vines than the one he has been so patiently nursing.

From an experience of more than twenty years, during which time I have grown some millions of grape vines, one hundred thousand of which I have fruited in my own vineyards, I am fully able to demonstrate that a well-grown one-year-old vine, produced from a single bud in *open culture* (open ground) is the best and most valuable plant that can be grown.

WM. GRIFFITH, North East, Pa.

WE have received from Wm. Griffith, Esq., of North East Penn., samples of six varieties of native vines, viz., Concord, Hartford Prolific, Diana, Delaware, Isabella, and Catawba, all grown from single eyes in the open ground. By some peculiar mode of his own, (which we hope he will divulge for the benefit of grape growers) Mr. Griffith is able to produce strong, well rooted vines of the Delaware from single eyes, planted at once in the open ground. We can commend the quality of the vines, which are planted in our own garden, and are making a most vigorous growth.

BLACK HAMBURG GRAPES.—We are indebted to John Ellis, Esq., of Fox Meadow Garden, for a fine bunch of Hamburgs, the produce of vines that have been hard forced for eleven years. The color, flavor, and general appearance of the fruit leaves nothing to be desired.

HEYL'S PATENT BINDING TAGS.—This is a very desirable article for those who wish to bind their own magazines as they are received, and thus preserve them from loss or mutilation. A box of tags with punch and binding strings sent post paid for \$1.00 from this office.

DARBY'S PROPHYLACTIC FLUID.—We have used this article, and are well acquainted with the inventor and proprietors, and fully believe that it possesses all the qualities which are set forth in the advertisement, and which render it desirable that it should be in every family

BOOKS, &c., RECEIVED.

DESIGNS FOR STREET FRONTS, SUBURBAN HOUSES AND COTTAGES.—Price \$10—Cummings & Miller Architects, Troy, New York. A. J. Bicknell, General Agent, Troy, New York.

A large work, 11 by 14 inches in size, containing 382 designs and 714 illustrations, of the various features which go to make up the architecture of buildings, as Cornices, Doorways, Porches, Windows, Verandahs, Railings, Stairs, and French Roofs, straight and curved, and all styles of Modern Finish, &c.

It delineates many designs of each of the above in great variety, from the cheapest to the most elaborate; new in their character, and such as avoid the many defects which mar much of our modern architecture. These designs are accompanied by Working Drawings, made on so large a scale as to render their construction obvious to any workman, and so distinct that they can be readily executed without any doubt as to their effect. These features or details are again given in numerous elevations, showing their effect when combined in buildings of various classes required in this country. (See our book list.)

ELEMENTS OF INTELLECTUAL PHILOSOPHY. By Rev. Joseph Alden, D. D., LL. D., Late President of Jefferson College. New York: D. Appleton & Co. 1866.

Unlike many text books in Mental Philosophy, this book is not a mere recapitulation of the views of previous writers. It is thoroughly original in plan and purpose, and might be properly called an application of common sense to philosophy. Its aim is to train the student to habits of clear and accurate thinking, and though designed merely for use in schools and colleges, it can be used to advantage by those who have not passed through a course of college instruction. The author has expressed himself with great clearness and simplicity, and has produced an excellent system of mental gymnastics.

THE HORTICULTURIST.

VOL. XXI.....AUGUST, 1866.....NO. CCXLII.

VARIETIES OF STRAWBERRIES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

WITH August again comes the forming of new strawberry beds. To select from the many sorts now offered and catalogued as "excellent," "very superior," &c., is a task not easily performed.

To aid the difficulty of making such selection, we have, during the just passed strawberry season, made almost daily visits to our own and our friends' strawberry grounds, treating ourself to a delicate, high flavored Ladies' Finger, and anon biting into the Agriculturist, however irregular the form. We have feasted on Jucunda, and, both early in the season and at its very close, have found well-ripened Downer's Prolific to relish most satisfactorily on our palate. With Triomphe de Gand we have imbibed a peculiar aroma, and with Green Prolific, obtained when fully ripe, the nearest to the perfect in quality of strawberry.

We have not omitted our old and valued friend Hovey; nor could we, if so disposed, have failed to notice Wilson; but, while

we have partaken of the good fruit of dozens of varieties, our limits will not admit of any detailed descriptions. Even a record of the names of *all* the kinds would occupy too much room; and, therefore, while we have examined many, we only write out our notes of those most prominent at this present time.

If our notes fail to make record of any sorts that our friends imagine most deserving of culture, we will thank them for an expression thereon.

In our examination, we have taken up two positions, for which, or on which the strawberry should be judged—the one for market purposes, and the other for private gardens or family use.

For market, we have regarded vigorous vines, firm, good-sized fruit, and habits of great productiveness, as the leading characteristics to be sought.

For family use, we have borne in mind quality and size, productiveness, and hardihood of vine in their order. Flavor and

quality as a market fruit, we have regarded as desirable, but secondary to the points we have named; while for family use, quality is a point that cannot be overlooked, even at a gain in productiveness.

The season is another matter of account, both to the market-grower and amateur, as the one longer supplies his pocket, and the other his table.

The old Early Scarlet, or Early Virginia, so long and so generally grown, while it has a fine-flavored fruit, is so small, and so much less productive than Ladies' Finger, or Downer's Prolific, or French's Seedling, that we unconsciously gave it the go by in our first, as well as our subsequent examinations, and for early ripening settled upon the three last named.

LADIES' FINGER, we find, ripens its fruit very early, bears abundantly, vines perfectly hardy, enduring even neglect, or rather what some call culture, that is, running together in a mass. We made outlines of this,



FIG. 90.—*Ladies Finger.*

as well as many others, more to retain in our mind their general form than to present a show picture.

This, as our readers will see, is a long, oval fruit; it is sometimes pointed; the stem is firmly inserted; the core is small, and partially hollow; the flesh fine, light pink; while outside, it is a deep, rich scar-

let, with light yellow, small, and deeply-imbedded seeds. As an amateur or a market fruit, we consider it among the best.

DOWNER'S PROLIFIC we have fruited yearly for several years, and do not feel that we can do without it, although it is too soft for market purposes. It is a great bearer, carrying its fruit high and clear of the ground. It commences ripening among the very earliest, and holds it until the very last. In quality, unless fully ripe, it is too acid; but when fully ripe, it is delicious, and, with a little sugar, makes certainly as good, if not the best mingling of sugar and acid of any of the strawberry family. In form, it is very regular, and nearly round.

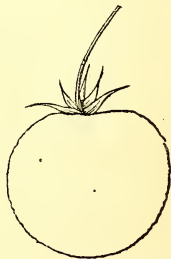


FIG. 91.—*Downer's Prolific.*

With this, as with all our illustrations, we give only an *average* sized fruit. The large fruit are generally figured by dealers in vines, while the small fruit no one cares to see figured.

In color, Downer is a light clear scarlet; its flesh white; and, as before remarked, too soft when ripe, to bear carriage any distance, hence it is not desirable for the market-grower.

FRENCH'S SEEDLING.—This variety we saw but little of this year, our bed being in a very unfavorable position, but what we did see of it has led us to conclude that it has not been over-rated, and we should advise its planting as an early and profitable sort for market purposes.

JUCUNDA.—With this variety we have

been familiar now some four or five years, and have regarded it as one of the most productive of any foreign variety; but its vines are a little tender, and the winters, where they are unprotected, cause it to make but a poor show in Spring time. If in good soil however, it recovers rapidly, and produces almost equal to Green Prolific or Wilson's Albany. Its fruit is irregular, roundish in form, of a dark, rich,



FIG. 92.—*Jucunda*.

glossy scarlet, with light yellow and prominent seeds. Its flesh, firm, yellowish red, pinky at core; of good, not extra, high flavor; truss of medium height; stout foot-stalk; dark green, broad foliage. Altogether, it is a valuable sort for market gardening, or for amateur culture, provided the vines be sheltered during the winter by a light covering of straw, old pea or bean haulm, &c.

GREEN PROLIFIC.—This variety is comparatively new, and our examinations were made all on new beds, of last August's formation. We like it.

In real quality, when fully ripe, it is superior. Its mingling of acid and sugar is excellent. The vines appear as vigorous as Wilson's, and that is saying a great deal.—In productiveness, few varieties are its equals. In size of fruit, its average is above medium, while they are uniform, not a few large and the remainder quite small, as in some varieties.

In form, they are roundish, of a rich glossy scarlet, with dark seeds, moderately imbedded. Perhaps it may not prove quite sufficiently firm for long carriage, but we should feel like trying it, were we planting. The trusses are strong, and well up out of the dirt.

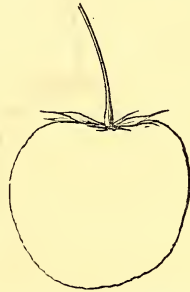


FIG. 93.—*Green Prolific*.

It is not an early sort, coming in just about as Wilson's are half gone, and holding on late.

AGRICULTURIST.—This sort, originating at the same time, and by the same grower, as the one just named, has had so much more of puffing, that it is found ten times where

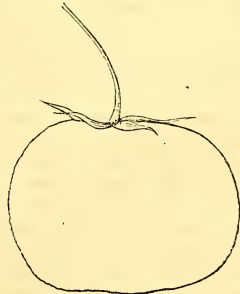


FIG. 94.—*Agriculturist*.—1.

the Green Prolific is once. Its vines are not as strong and vigorous as the Green Prolific; it is not as good a bearer; the fruit is quite irregular in form, many of them quite a cockscomb shape, while others

have a neck, and are long and pointed. It is a handsome scarlet, with long, pointed, light yellow seeds; flesh, moderately firm, a pleasant flavor—above mediocrity, but not really rich; desirable to the amateur,

yet, notwithstanding that and its acknowledged acidity, the public are yet willing to buy, and the grower pockets the money.

As an amateur sort, few are willing to grow it; but the public must have strawberries, and this is one easily grown, prolific to the complete satisfaction of everybody, and the public do, and will have it.

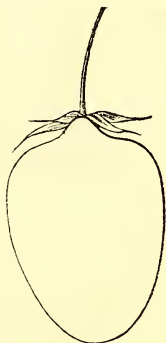


FIG. 95.—*Agriculturist*.—2.

but not to the grower for marketing purposes. Its trusses bloom abundantly, but do not set well in all cases; and its foot-stalks are so low, that the fruit lies too much on the ground. In hills, and with extra culture, doubtless it will show well.

WILSON'S ALBANY, so well known, and so universally conceded to be one of the best, if not *the* best market strawberry in existence, that we are excusable for its introduction only on the ground that if good, no matter how common, it should not be omitted—forgotten it never will be. We remember the good man who originated this, and who, during his life, was rather unwilling to say much about it, because it had not the quality in richness, or rather soft delicacy of fruit which he had been educated to think requisite in a good strawberry. In vigor and hardihood of vine it has no superior, if an equal; in productiveness, growers repeatedly say they can grow two quarts of this to one of almost any other old sort; and although it has one failing, viz., that of becoming of a dingy hue, after being picked four or five hours,

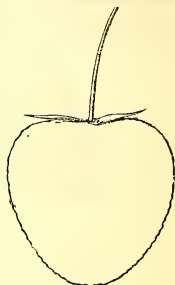


FIG. 96.—*Wilson's Albany*.

In form, it is very regular, nearly or quite conical; when gathered fresh, a bright, beautiful, rich, dark scarlet, that in a few hours changes to a dingy, dirty hue. All classes of soils and positions seem to suit it, in so far as growth of vine and productiveness are features; while its quality is undoubtedly best on strong clay loams, and poorest, or most acid, on sandy soils.

McAVOY'S SUPERIOR.—From our observation during this and last year, the variety

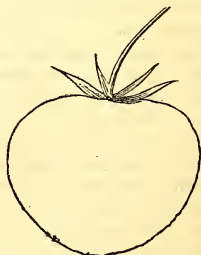


FIG. 97.—*McAvoy's Superior*.

sent out as *Buffalo* so closely resembles this variety, that we are disposed to think them

identical; if not so, they are so nearly alike, that whoever has McAvoy's Superior does not want Buffalo. The Cincinnati Horticultural Society paid a \$100 premium for this variety as a superior one.

In quality, it has really no equal, if we except Burr's New Pine; but in productiveness, unless the beds are renewed each and every year, and on good, strong, deep soil, it fails. It is too soft, and too irregular in form, for market. Frequently it is a broken cockscomb form; but, as a general thing, it is irregular, pointed, round.

The vines are liable to kill out in winter, and should be covered with pea haulm, or some other mulching material.

HOVEY'S SEEDLING.—This is another of the old sorts, too well known for comment,

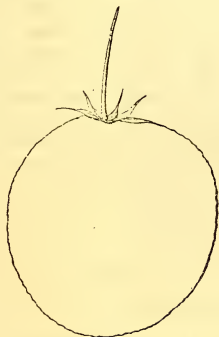


FIG. 98.—Hovey's Seedling.

but yet holding qualities that will yet keep it a place among amateurs. If it had a little more of a productive habit, and a little more of flavor, it would continue to keep the place it has held for many years.

In size, it ranks among our largest; of handsome color; firm for transportation; and when grown on deep clay loams, and impregnated with some variety like Boston Pine, it produces a good moderate crop. In market, for price, it will command more than any other berry, although its quality is hardly second rate, being deficient in acidity as well as sugar.

TRIOMPHE DE GAND.—This variety, with amateurs, can hardly be dispensed with, but market-growers, as a general thing, have not found it profitable.

It is firm; carries well; is of a peculiar flavor, pleasant to most people; of good size; glossy, pale scarlet; but even then, as a general market fruit, does not sell for more than two or three cents a quart extra over Wilson's, which can be produced at half the cost. Cultivated in hills, we have record of two or more cultivators who have made it a paying sort for market; but they had cheap labor, and sold at high prices; in other words, their markets were exceptions. In good, strong, clay loam soils, and well cultivated, it gives good fair crops, and so unlike most other sorts, that all amateurs should have it.

Fruit, of a bright, clear, glossy red, often almost white on one side; irregular in form; mainly cockscomb; sometimes round.

BURR'S NEW PINE is one of the highest flavored sorts ever produced, but its truth and purity is now rarely to be found. In most cases, we find Burr's Seedling grown for New Pine. The New Pine, when to be had *true*, is the amateur's berry.

BURR'S SEEDLING, as above remarked, is often grown as New Pine. It is a light red berry; of medium size; productive; hardy vine; not high enough flavored for an amateur's sort, and too pale in color for market.

PROLIFIC HAUTOBOIS.—Of all the Hautbois, we think this preferable. Its peculiar musky aroma, when mingled with the scarlet sorts, give to the dish a character unattainable in any other manner.

METHVEN SCARLET.—This, and Trollop's Victoria, we have looked over this season, to see how much advance was made in the latter over that of the former. We acknowledge an advance, but do not think either desirable.

WILLEY, LONGWORTH'S PROLIFIC, AND JENNEY'S SEEDLING, are all sorts of value, and especially so for carrying purposes; but

as the Wilson produces most, they cannot come in for market-growing.

BROOKLYN SCARLET.—Don't set well. We can see nothing in it desirable at this stage of strawberry culture.

PROGRESS.—To us is no progress. Vines of only moderate size, and not productive.

CUTTER SEEDLING.—Very much like Burr's Seedling. Their day is past.

LENNIG'S WHITE, DEPTFORD WHITE, &c., are of little or no value. The best of this fancy class is Lennig's, and that requires high culture in hills, and good strong soil, to produce a dozen fruit to a vine.

LA CONSTANTE.—A delicious fruit, but vine too delicate.

COL. ELLSWORTH, EMMA, NERO, MONITOR, and some others, we have not seen sufficient of to speak in their praise. They must do better next year, or stand aside.

LA DELICIEUSE, like *La Constante*, too delicate in foliage, or vigor of vine.

RUSSELL'S PROLIFIC.—Last season this variety took a prominent lead, and this season we notice it has done so in some sections, while other localities have pronounced it of no value. Our belief is, that it requires strong soil, and to be renewed each

year. The fruit is, however, too soft for a market berry; and, as an amateur sort, there are a number better.

FILLMORE, as usual, gives some fine fruit, and so does Hooker, but comparison with other sorts above named, places them in a list to be left out, except by large amateur planters.

GOLDEN-SEEDED AND ROBINSON'S PERFECTION are two sorts unworthy planting.

AUSTIN SHAKER, on some grounds, has given fair crops of a large, firm, and good fruit; but, as a general thing, it is not productive.

In closing our notes, we will say one word about forming new beds:

First, make the ground as deep as plow or spade can do it; enrich it with old, well rotted manure; select your plants; cut off all the leaves but the youngest one; dip the roots in soft mud, or thick muddy water; if dry weather, give one good watering, say a quart to one plant; immediately after watering, draw over some dry soil, and, as a general thing, the plants will succeed.

They should be hoed in about one week or ten days after planting.

DESIGN IN RURAL ARCHITECTURE.—No. 16.

BY G. E. HARNEY, COLDSRING, NEW YORK.

THIS design was built about two years ago, by Dr. P. C. Parker, of Coldspring, and is situated on a fine piece of ground, near and overlooking the village, and embracing beyond, fine views of the Hudson, West Point and the Newburgh Gap, and of the ranges of mountains above and below.

The house stands between the approach road and the river, consequently the entrance porch is on one front—that towards the road—the living apartments and veranda are on the opposite side, fronting the river; by this means greater privacy is given to those portions of the house usually occupied by the family.

The arrangement of the plan is as follows:

The front veranda, No. 17, opens by wide doors into a vestibule, No. 1, seven feet square; No. 2 is the hall containing the staircases, and No. 3 is a small room or recess opening by means of a French window upon the principal veranda which extends round the river side of the house. The hall and recess are separated from the main hall by Gothic arches with ornamental columns and moulded spandrels; No. 4 is the Doctor's business office, which has a separate entrance, for persons calling specially on him, seen at No. 5; No. 6 is a comfortable little library furnished with book cases and having an ornamental chimney-piece; it has two windows which give pleasant north

and west views; No. 7 is a parlor, about sixteen feet square, exclusive of the bay window which projects from its western side about five feet, and around which the veranda extends; No. 8 is the dining room fifteen feet by sixteen, and No. 9 is a small butler's pantry, fitted up with shelves and cupboards and opening into the kitchen, No. 11. The kitchen is in the Southern wing, and is furnished with sink and other kitchen conveniences; No. 10 is a scullery fitted up with cupboards and a sink, and supplied with hot and cold water; the dishes are washed here, and passed into

the butler's pantry through a small opening left for that purpose in the wall between them, and on a level with the wide shelf of the pantry. A door from the kitchen opens out upon a private veranda, No. 13, which is entirely shut in by lattice work, and this is used in summer as a laundry or washing room; No. 14 is the outside stairway of stone, leading to the cellar; and No. 15 is a water closet, made in a hollow space between two walls, and ventilating through this space into a flue of the kitchen chimney, running along by the side of the kitchen flue. The warmth

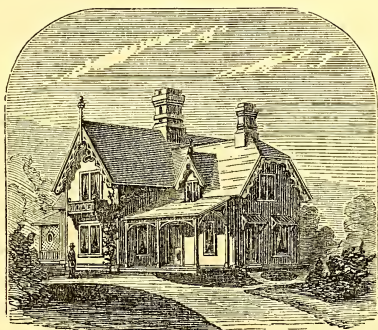


FIG. 99.—*Perspective.*—A DOCTOR'S RESIDENCE.

of the kitchen flue produces a current of air in the ventilating flue, and by this means the water closet is fully ventilated, and though quite near the house, is always cleanly and inoffensive. Private stairs from the kitchen lead to the chamber floor and to the cellar. The cellar has a laundry under the kitchen, a large store-room under the butler's pantry, and an open cellar under the rest of the house where are the brick cistern, the furnace, coal bins, wine closet, and other conveniences usually found in this portion of the house.

In the second story are two square chambers, with full ceilings over the parlor and

dining room; two rooms for servants, besides a bathing-room over the kitchen; and a stairway to an unfinished attic over the central portion of the house; a chamber over the library and a large linen room over the office; all these rooms are well lighted and well supplied with closets.

The house is built of wood, filled in with brick, and sided with narrow pine siding; the roofs throughout, including the window hoods are all covered with slate, put on in alternate bands of green and purple. The interior walls and ceilings are hard finished and the interior wood work is stained and oiled—three different shades being used for

the staining; dark umber, light umber, and annatto. The exterior is painted three dif-

ferent shades of oil paint, of browns and grays, and the doors are grained like oak and walnut. The rooms in the principal story are ten feet high, and those in the chambers are nine feet high.

This house was built in a very complete manner, and furnished throughout for about six thousand five hundred dollars. The work was all done by the day, and at a season when labor and building material were higher than they had ever been before, though much lower than they are at present.

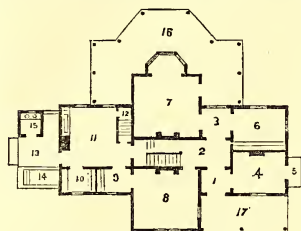


FIG. 100.—Ground Plan.

NORTON'S VIRGINIA GRAPE.

From Husmann's Grapes and Wine.

It was about this time (1848) that the attention of some of our grape growers was drawn towards a small, insignificant-looking grape, which had been obtained by a Mr. Wiedersprecker from Mr. Heinrichs, who had brought it from Cincinnati; and, almost at the same time, by Dr. Kehr, who had brought it with him from Virginia.—The vine seemed a rough customer, and its fruit very insignificant when compared with the large bunch and berry of the Catawba, but we soon observed that it kept its foliage bright and green when that of the Catawba became sickly and dropped; and also, that no rot or mildew damaged the fruit, when that of the Catawba was nearly destroyed by it. A few tried to propagate it by cuttings, but generally failed to make it grow. They then resorted to grafting and layering, with much better success. After a few years, a few bottles of wine were made from it, and found to be very good. But at this time it almost received its death-blow by a very unfavorable letter from Mr. Longworth, who had been asked his opinion of it, and pronounced it worthless. Of course, with the majority, the fiat of Mr. Longworth, the father of American grape-culture, was conclusive

evidence, and they abandoned it. Not all, however; a few persevered, among them Messrs. Jacob Rommel, Poeschel, Langendoerfer, Grein, and myself. We thought Mr. Longworth was human, and might be mistaken; and trusted as much to the evidence of our senses as his verdict, therefore increased it as fast as we could, and the sequel proved that we were right. After a few years, more wine was made from it in larger quantities, found to be much better than the first imperfect samples; and now that despised and condemned grape is the great variety for red wine, equal, if not superior to the best Burgundy and Port; a wine of which good judges, heavy importers of the best European wines too, will tell you that it has not its equal among all the foreign red wines; which has already saved the lives of thousands of suffering children, men, and women, and therefore one of the greatest blessings an all-merciful God has ever bestowed upon suffering humanity. This despised grape is now the rage, and 500,000 of the plants could have been sold from this place alone the last fall, if they could have been obtained. Need I name it? It is the Norton's Virginia.—Truly, "great oaks from little acorns

grow!" and I boldly prophecy to-day, that the time is not far distant when thousands upon thousands of our hill-sides will be covered with its luxuriant foliage, and its purple juice become one of the exports to Europe; provided, always, that we do not grow so fond of it as to drink it all. I think that this is pre-eminently a Missouri

grape. Here it seems to have found the soil in which it flourishes best. I have seen it in Ohio, but it does not look there as if it was the same grape. And why should it? They drove it from them, and discarded it in its youth; we fostered it, and do you not think, dear reader, there sometimes is gratitude in plants as well as in men?—



FIG. 101.—*Norton's Virginia Grape.* Berries one-third full size.

Other States may plant it, and succeed with it, too, to a certain extent, but it will cling with the truest devotion to those localities where it was cared for in its youth. Have we not also found, during the late war, that the Germans, the adopted citizens of this great country, clung with a heartier devotion to our noble flag, and

shed their blood more freely for it, than thousands upon thousands of native-born Americans? And why? Because here they found protection, equal rights for all, and that freedom which had been the idol of their hearts, and haunted their dreams by night; because they had been oppressed so long they more fully appreciated the

blessings of a free government than those who had enjoyed it from their birth. But you may call me fantastical for comparing plants to human beings, and will say plants have no appreciation of such things. Bro-

ther Skeptic, have you, or has anybody, divined *all* the secrets of Nature's workshop? Truly, we may say that we have not; and we meet with facts every day which are stranger than fiction.

NEW STRAWBERRIES.

BY J. M. MERRICK, JR., WALPOLE, MASS.

THE Editors of the *HORTICULTURIST* encourage me to give my results with new and old varieties of the strawberry, obtained from my experience during 1865 and the present year, and I therefore present this brief paper.

My beds were planted one year ago last spring, in good garden soil which had borne a crop of corn the previous season without manure. The vines were set in rows, the plants being put from eight to sixteen inches apart in the row, according to the vigor of their growth; and except in the case of new varieties, where it was desirable to multiply plants, the runners were trimmed off as fast as they appeared. Under this treatment, Downer's Prolific, Triomphe de Gand, Bartlett, and some others, thickened up into what may fairly be called bushes, with immense crowns full of buds. The *Agriculturist* plants, although every runner was encouraged to grow, thickened up into immense plants, and made the finest looking row in the whole garden. The beds were dressed with an abundance of guano and wood ashes; but no stable manure was applied, either before planting or during the growing season. All the vines were covered with leaves and pine boughs in November; and these were not removed till the middle of April, when not one plant was found thrown out or injured.

I ought not to forget to mention that the guano and ashes were applied at three or four different times through the summer, and that the plants were hoed around two or three times a week, most of the season, thus keeping the surface in good order and subduing all weeds.

The present season has been unprecedentedly cold. March was extremely cold and disagreeable; we shivered round the stove in April, and in May we had only two or three warm days.

The first half of June was cold and cloudy, with east winds and dull weather, and the second half was not nearly as warm as usual until the last week, when hot weather came on and ripened strawberries very fast.

As I have nothing new to offer upon methods of cultivation, I proceed at once to a consideration of the merits of different varieties, taking them in alphabetical order.

AGRICULTURIST.

In size and vigor of plant, size of berry, and general excellence, this famous kind stands at the head of the list, and surpasses all the other kinds—some thirty-two in number—which I have on trial. Unless some now unknown imperfection should show itself, I do not see why this must not become the great market berry of the country.

I give no minute description of this variety, as almost everybody has it, but simply add that my rows of plants have now, July 3d, been for a week the wonder and undisguised admiration of my neighbors, some of whom are well acquainted with common strawberries, but "never saw anything like this."

BIJOU.

A new variety. A good grower, of dwarf habit, with wedge-obovate leaflets, on rather hairy petioles, and of a dark green color. Flowers large and conspicuous. Ber-

ries roundish-conical, medium to large, bright crimson, sweet, and as good as *La Constante*.

EXPOSITION A CHALONS.

A new variety. Not a very strong grower. Leaflets wedge-obovate, sometimes curiously subdivided, deeply serrate, dull dirty green. In blossom about May 17th. Fruit large, conical, good flavor, bright color; no better nor much worse than the *Triomphe de Gand*.

FROGMORE, LATE PINE.

Plant a vigorous and handsome grower; leaves large, medium green; leaflets round-ovate sharply serrate, on somewhat hairy petioles. Flowers very large and conspicuous; the first one open on the 15th of May.

Fruit immense in size, brilliant crimson, regularly conical, parting easily from the calyx; flesh white, juicy and delicious. The plants are quite productive, and by their size and vigor, and the size, brilliancy and beauty of the fruit, merit a place in every collection.

HAQUIN.

Said by Mr. Knox to be the same as *Princesse Royale*, while Ed. J. Evans and Co. inform me that they consider this kind a little superior to *Triomphe de Gand*.

There must be two or more different kinds under one name, for, of all the kinds I ever saw or heard of, the *Haquin* is the most utterly and indescritably worthless.

It is a coarse, rank grower; with berries as big as large peas, of no particular flavor or goodness, and is a thorough humbug.

LA DELICIEUSE.

Plants of dwarf habit; leaflets very long, narrow and slender, some very nearly spatulate, and dull green in color. Blossoms small, with very minute stamens, giving it the look of a pistillate kind, and very different from the flowers of most of the French and Belgian varieties.

Berries in clusters, small to medium, dark red, deeply pitted, and having much

the look of our wild kind, sweet, juicy and very delicious, but, of course, useless for a market berry.

Some of my friends give this variety the preference in point of flavor over all others.

LA NEGRESSE.

A tolerably good grower. Petioles very long, reddish, and hairy; leaflets deeply serrate, rough, and dull green. Berries very few in number; not very dark colored when fully ripe; regularly conical, very large, sweet and good.

This variety has no special excellence, and no obvious claim to the name it bears.

LUCIDA PERFECTA.

This very striking variety, said to be a cross between the *British Queen* and the *California Strawberry*, makes so fine a display of leaves of a very unusual shade and texture, as to attract attention among many kinds.

The plant is an extremely vigorous and stocky grower, of a compact and rather dwarf habit, having very large, thick, dark green and glossy leaves. The leaflets are round-obovate, slightly crumpled, with not very deep serratures, much lighter on the under than on the upper side. As the plant gets older, the upper side of the leaf turns very dark green, and shines as though it were varnished. It is an extremely late variety, the buds on plants a year old and well grown being hardly visible down in the centre of the crown on the 10th day of May; and on the 1st of July there were still many blossoms remaining. Berries, medium to large, bright crimson, white towards the neck, obtusely conical or slightly coxcomb shape; flesh snow-white and full of rich sweet juice. Plants moderately productive, and curious in the development of the fruit-stalk, which grows to two or three times the length it had when the first blossom opens.

For a refined taste, I think perfectly ripe berries of this variety present more attractions than any other kind I know.

LUCAS.

A most splendid strawberry; a strong vigorous grower. Petioles medium length; leaves large, bright green, a shade lighter than the parent plant *La Constante*, and very handsome. Fruit ripe about July 3d. Berries very large, some of them immense, conical, and very regular in shape; rich, juicy and delicious, with a decided raspberry flavor. This is a berry that ought to make quite a stir among amateurs.

MADAME COLOGNE.

I find the name of this variety spelled in various ways, but the above is the title by which I bought my plants last year.

It is a strong healthy grower of somewhat dwarf habit, with large, crumpled medium green leaves, the leaflets being very sharply and deeply serrate, and tapering a little at the base. The berries are obtusely conical (with occasionally a long neck), sometimes irregular, not very bright crimson, white-fleshed, and decidedly sweet and good, though not very juicy. Plant a moderate bearer, although I notice that some young vines, eight or nine months old, sometimes sacrifice all their other fruit to produce one enormous berry. The roots of this variety are extremely fine and thread-like, in marked contrast to those of many other kinds.

ORB.

Tolerably strong grower, but very tender, and if exposed, winter-kills badly.

Petioles nearly smooth, glossy; leaves dark green.

Berries roundish, large, light colored, sweet and rich, but so very few in number as to make the plant of little value save to the curious amateur.

QUINQUEFOLIA.

Mr. A. S. Fuller wrote to me last fall that this variety was worthless and a humbug; but my experience this year enables me to say that one of us has not got the true *Quinquefolia*, for my variety is one of the very choicest.

Petioles with scattered hairs, leaflets rounded, crumpled, not very dark green, and not very peculiar in arrangement; at least I have never found a fine parted leaf.

The plants are very productive; and the fruit is a regular cone of immense size, light red, sweet, juicy and delicious in a very high degree. A most excellent strawberry.

Of the older and better known varieties I have a good collection, and would like to say that I consider *La Constante*, *Triomphe de Gand*, *Lenning's White*, *River's Eliza*, and *French's Seedling*, indispensable in a good family garden. *Lenning's White*, especially, is an exquisite strawberry; and the *Eliza*, although soft and light colored, is so excellent in flavor, and so wonderfully large in size, that I cannot allow it to be elbowed from amateur's collections without a protest.

My *Russel's Prolifics* have borne an immense crop of tolerable berries, about second rate in point of flavor.

I have no *McAvoy's Superior*, and therefore can add no word to the Babel of talk about these two kinds.

Those who prefer quantity to quality will raise the *Russell's Prolific*.

It seems strange to me that so few gardens are embellished with strawberry beds.

Everybody loves the fruit; but to indulge in purchased berries in generous quantities throughout the season has to be regarded by many as an extravagance they cannot well afford. It is very easy, on the other hand, for those who own gardens, to raise strawberries enough and more than enough for their own use. Any soil, not absolutely vile, will produce strawberries; and last year I saw a bed of *Wilson's Albany* filled with five years growth of grass, yet still flourishing tolerably and bearing a moderate crop.

Of course neglect is not to be commended. Plant the vines in hills, keep the runners cut off, keep the start of the weeds after you once get it, throw some leaves and pine boughs over the vines in November, let the

leaves stay in the spring for a mulch—(all this is more formidable when written out than it proves in actual practice)—and little trouble will be experienced in getting a supply of berries, better fruit than which, says Isaac Walton, the Creator *might* have made, but certainly did not.

I believe this saying, by the way, is older than Walton; but it is nevertheless as true as gospel, whether it be old or new.

In brief, I may say that, in my opinion, the best berry, taking all things into account, is the Agriculturist; the sweetest and dryest, Madame Cologne; the handsomest, Lucas or Quinquifolia; the best white, Lenning's; that which—if it really be a foreign kind—comes the nearest to our wild berries, La Deliciense; the meanest, Haquin; and the most delicious, refreshing and palate-satisfying, Lucida Perfecta.

DISEASE OF THE VINE AND ITS REMEDY.

BY P. LAZARIS, OF ATHENS.

ANY substance, dried and pulverized, which does not injure the foliage or fruit of the vine, cures the disease of "oidium," with which it is affected. It is because of the same qualities that pulverized sulphur produces the same effect, and not as a specific, as is generally believed. Those who have thus far applied themselves to research, to discover a remedy for the disease called "oidium," have wished to find a specific which would as surely cause it to disappear as does quinine break the intermittent fever. Consequently, they have considered that sulphur possessed such specific properties, but no one discovered that any material reduced to very fine powder, and which would not injure the plant or its fruit, would equally well cure the disease. When it is spread abundantly on the grape, where it attaches itself easily, it acts, as I believe, by its drying the parasitic fungus, absorbing its juices, and thus cutting off its nourishment. In some microscopic observations I have made, I think I have seen this effect produced just at the point where the peduncle of the parasitic grains is attached to the grape, and possibly on the grains themselves. Having observed that those grapes which lay upon the earth were not attacked by the disease, I concluded very naturally that the most efficacious

means to cure it was by powdering the plant with earth.

The following experiments led me to consider my discovery as an infallible remedy. I powdered my vines with European sulphur, save one corner of my vineyard apart from the rest, which was saved for experiment. This was divided into two portions; one was treated with sulphurous earth of Kalamaki, called "antirusty" (antigalceuse) the other simply with clay, leaving, at the same time, a few vines in their natural state, to see if the disease would not cease spontaneously. In due time, the three portions treated with European sulphur, earth of Kalamaki, and with clay, alike showed the cure desired, while the vines not treated at all were entirely destroyed by the disease. Therefore, I concluded that pulverized earth merited equal confidence with sulphur. As some persons suppose that sulphur exercises an influence at some considerable distance, I repeated the experiment the following year in a part of my vineyard distant from where sulphur was used, and not forgetting to leave some vines without any treatment. Three months later, the vines not powdered were destroyed, while those treated with argillaceous earth were saved, convincing me fully that such argillaceous earth radically cure the

disease; yet I resolved to continue the experiments during 1858, and test the following matters:

1st. If, in order to save expense and labor, two powderings would not suffice instead of three?

2d. What is the best time to make the applications?

3d. If, having omitted the first application, it would be possible to effect it by a later application?

In order to settle these three questions, I performed the following experiments:

I powdered a number of vines before flowering, and twice later, at the times when sulphur is usually applied. The cure was complete. Fifteen days after I commenced the preceding experiments, I commenced another series in the same way.—Nine days had not passed before signs of the disease appeared, when I immediately repeated the application of pulverized earth, and had the satisfaction to see the disease arrested. I repeated the experiment the third and fourth time with the same results. Another series was powdered at the time of the setting or formation of the young grapes, but without success, although the earth was used abundantly. A fourth lot was left untouched in the midst of the rest, which was, like the last, attacked.

From these experiments I have drawn the following conclusions:

1st. The earth should be freed from sand and gravel, dried in the sun a few hours, pulverized very finely, and then sifted or bolted like sulphur.

2d. That as common clay is easily prepared as above, and adheres well to the vines, it is preferable to other kinds of soil.

3d. That the instruments generally used to apply the sulphur will serve for this also, at least for the first and second operation; but the third time, as the grapes have then some size, it is desirous to have them more

abundantly powdered, yet it is possible here to use the same instrument used for sulphur.

4th. The powdering succeeds best when applied after sunrise; but while the grapes are still somewhat moist with dew. The following times are the best for the application: *a.* When the young shoots have scarcely attained the length of a span, before the grape is in flower. *b.* As soon as the flower has fallen, and the young grape entirely set. *c.* When these are of the same size as is thought sufficient in sulphuration.

5th. Independently of these, even when performed with care, it is necessary sometimes to make extra applications, as, for example, each time after a heavy rain, after waiting a day.

6th. The removal of a part of the leaves as is usual is advisable, if practiced with moderation, otherwise the vines, deprived of leaves, the grapes may be scorched by the heat of the sun.

7th. If from any cause the first regular powdering has been omitted or neglected, it will be necessary to supply it by two others, with an interval between of eight or ten days. But it is indispensably necessary that it be done before the time of the second regular application.

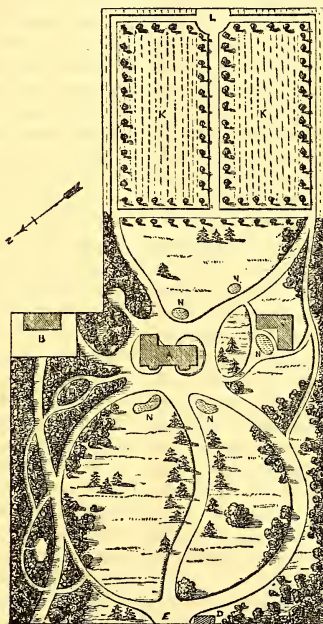
8th. It is necessary always to perform the operation with the greatest care. It is well to have the workman followed by another, who again carefully examines the vines, and powders any that may have escaped. If, after this, disease reappears, it is proof that the operation has not been well done, and it is necessary to immediately repeat it with all the care that is bestowed when sulphur is used.

[Mr. Lazaris is the proprietor of one of the best managed vineyards in Corinth, and one of the highest authorities on the management of grape-vines.—Ed.]

(*Floral World.*)

PLAN FOR LAYING-OUT FIVE ACRES FOR A SUBURBAN VILLA.

BY E. FERRAND, DETROIT, MICH.



PUB. ROAD

FIG. 102.—Plan.

REFERENCES.

- | | |
|-----------------------------------|--|
| A. House. | F. Entrance to Barn. |
| B. Coach-House, Stable, and Yard. | H. Group of Rhododendrons and Azaleas. |
| C. Greenhouse and Grapery. | K. Kitchen Garden. |
| D. Gardener's Cottage. | L. Entrance on Street. |
| E. Principal Entrance. | N. Flower-Beds. |

In this plan, the kitchen garden occupies about $1\frac{1}{2}$ acres.

SOUTHWARD, HO ! FRUIT CULTURE IN THE SOUTHERN STATES.

BY D. H. JACQUES.

I AM not disposed to say a word calculated to deter any one, who has the disposition and the means to do so, from engaging in the culture of cotton, rice, or sugarcane in the South. These have always been, and doubtless will continue to be, profitable crops; but there are thousands who desire to try their fortunes in the sunny South to whom these branches of agricultural industry are practically closed. It is to these, and particularly to persons having some knowledge of fruit culture, that I desire to address myself.

It is not generally known, but is none the less an indisputable fact, demonstrated by actual experiment, that a large portion of the Southern States is admirably adapted to the culture of fruits, and especially is this true of what is called the "Middle Country," embracing the undulating and moderately broken region which lies between the low flat belt which borders the coast and the hilly and mountainous "Upper Country," and running through North Carolina, South Carolina, Georgia, and Alabama.

Having lately visited this "Middle Country," for the special purpose of examining it with reference to fruit culture, and being familiar, from former long residence in the South, with its soil, climate, and productions, a brief report through the widely-circulated pages of the *HORTICULTURIST* may meet the eyes of many to whom it will prove interesting, and perhaps valuable.

The region particularly referred to in the following description (though my remarks will apply in the main to a large part of Middle Georgia and the adjoining States) comprises portions of the counties of Richmond and Columbia, Georgia, and is intersected by the Georgian Railroad, connecting Augusta with Atlanta.

In contradistinction from the more extensive pine lands of the "Low Country," which are quite level, the region under notice may be called the "Pine Hills." The face of the country, however, is undulating, the elevations reaching an altitude of 300 feet above the Savannah River. The gradually sloping hill sides are susceptible of easy cultivation, and are admirably adapted to vineyards, while the plateaus which invariably form the summits of these hills, and vary from ten to a hundred or more acres in extent, are well suited to orchards. The valleys are well watered and fertile, producing large crops of cotton or corn, and adapted to the growth of the small fruits. The scenery is everywhere pleasant, and in some localities quite picturesque and beautiful.

The soil is generally sandy. On the hills it is light-colored, and only moderately fertile. In the valleys it is darker and richer; and some of the bottom lands bordering the creeks possess a soil equal in fertility to the river valleys of the West. The subsoil, lying at various depths below the surface is mainly a red clay, below which, in some localities, the railroad cuts and the hillside gullies have revealed immense beds of kaolin, or porcelain clay of the finest quality, and said to be equal, if not superior, to that of which the famous Staffordshire ware is made in England.

The region is watered by numerous creeks, tributaries of the Savannah, all of which furnish clear running water, and abundant water power. The water of the numerous springs is remarkably pure, except in the few cases, in certain localities, in which it is impregnated with iron.

The original forest growth on the hills is the magnificent long-leaved pine of the South—the monarch of the semi-tropical forest—known in its manufactured state to

the timber dealer and builder of the North as "Southern Pine." It is this tree which everywhere gives its peculiar character to the landscape, and indicates the nature of the soil and the climate. Where the pine timber has been partially cut off, there has sprung up a growth of oaks of various species, but mainly of a dwarfish habit, which contrasts strongly, both in size and in the color of their foliage, with the gigantic pines which here and there overshadow them.

In the bottom-lands which border the creeks, water oak, hickory, sweet gum, blade gum, maple, poplar, and other deciduous trees, form the principal growth.

Chickasaw plums, persimmons, pawpaws, or wild bananas (rich, sugary and delicious); grapes, mulberries, blackberries, and whortleberries, are among the spontaneous productions of the soil. Figs and peaches grow almost spontaneously, and are found on every farm; but in general little attention has been paid to them.

The principal crops hitherto cultivated here are cotton, corn, Chinese sugar-cane, sweet potatoes, Irish potatoes, and field peas, with some wheat and rye, and the ordinary garden vegetables.

The cultivation of fruits is not an untried experiment in the region of which I am writing. Mr. L. E. Berckmans, the distinguished Belgian pomologist, after having been engaged in fruit-culture—making the pear, however, his specialty—for fifty years, first in Europe, and afterward in New Jersey, finally selected a place here as the scene of his future labors; and Mr. D. Redmond, one of the leading pomologists of the South, and well known for many years as the editor and publisher of the *Southern Cultivator*, is so well convinced of the superior advantages of this locality, that he is preparing to plant five or six hundred acres with fruit trees and grapevines, and this after an experience here of nearly twenty years. I may add that the finest orchard, without exception, that I have ever seen, North or South, is in the immediate neighborhood of Mr. Redmond's

August, 1866.

present fruit-farm. It consists of peach, apple, and pear trees, all in the most perfect condition, and in full bearing. It is a sight worth traveling many miles to see.—Its proprietor is a Northern man (Mr. Stanton), who has brought his Yankee energy, industry, and skill to bear upon this generous Southern soil.

Nearly all the fruits of the temperate zone may be advantageously grown here.—The cherry, the gooseberry, and the currant are, perhaps, partial exceptions. The grape, the peach, and the strawberry reach a degree of sweetness and exquisiteness of flavor utterly unknown in colder climates.

Strawberries may, by proper management, be kept in bearing for four or five months in succession, and sometimes they ripen in mid-winter. If planted in the fall, they produce a good crop the next spring, commencing to ripen from the 1st to the 10th of April, according to the season.—They sell readily in the markets of Augusta, Atlanta, Savannah, and Charleston, at from 25c. to \$1 per quart, and the supply has never yet equalled the demand; and they may, probably, even be sent to Nashville and Louisville, where they will command still higher prices.

Peach trees in this climate come into full bearing the third year from the bud, and I even saw trees in the nursery rows, two years from the bud, with peaches on them.

Peaches, carefully packed in crates, are sent from the neighborhood of Augusta to New York, the earliest varieties reaching this market from the 20th to the 25th of June, and commanding at first as high as from \$15 to \$20 per bushel. An average of at least \$5 may reasonably be counted upon. Once properly planted, one hand can cultivate from thirty to forty acres, extra help, of course, being required to gather and pack the fruit for market.

Apples and pears will probably prove even more profitable than peaches, they never failing from frost, as the latter sometimes do even here.

Grape culture and wine-making have proved immensely profitable, the wine produced being superior to that made anywhere else in this country.

The climate of Middle Georgia is mild, equable, and in the highest degree salubrious. No more healthful region, in fact, can be found, either in America or Europe.—The fall and winter are absolutely delightful, and may be compared to a perpetual "Indian summer," in which the air is "tempered into a mild deliciousness." The work of the farmer is never interrupted by deep snows and frozen ground, and his heaviest labors are performed in winter. In summer, the temperature is pretty high

during the day, but, on these breezy hills not oppressive, and the nights are invariably cool.

Strange as it may seem, land admirably adapted to fruit-culture can be bought here, in the immediate neighborhood of the railroad, for from \$10 to \$12 per acre. The tendency, however, is upward, and these lands will soon command much higher prices.

Persons who, like the writer, are contemplating emigration to the sunny South, will do well to inform themselves in regard to the Pine Hills of Georgia.

389, Broadway, New York.

INSIDE GRAPE BORDERS.

BY FOX MEADOW.

LET not the world accept as an *impossibility* the trial and failure of an object sought to be effected by any man, or dozen of men in any part of this known world. For why? Because if such should be allowed to become the rule, man would then acknowledge man to be infallible—and this, as far as the great book of horticulture is concerned—never entered its pages, and never will.

As my friends in horticulture, J. S. Houghton, M. D., and William Bright, of Philadelphia, have had much to say about inside borders for vines,—their excellent qualities and properties, the power of controlling, root action, and a host of nice other little things that ought very much to amuse the babies—yes, said more and written more on this one subject than all the host of horticulturists put together in America; we think the Doctor ought to have come forward to the *front ranks* in horticultural literature and made his statement, which we see you, Mr. Editor, have copied from "Hovey's Magazine." Why carry such news as this all the way up to our North back door? But "open confession is good for

the soul," so better somewhere than nowhere. Time will not permit me to enter into the details of Dr. Houghton's failures, and others around Philadelphia. Some of those borders he refers to, however, we have seen, also many around the city of New York, and we must confess, that in the whole course of our life we never saw such a lot of ridiculous, absurd, foolish, unnatural constructed things! For instance, one house, 200 feet long, vines planted two feet apart, and the supply of water brought in, *in a half inch leadpipe*. This house is dying for water. Another large house we could name, is planted with vines three feet apart, and a *second row*, the same distance apart, along the middle, and the border having an *inclination* from *front* to *back*! In this house the water has to be carried in by hand. The water all runs to the back of the house, and common sense will determine the consequence. A third house we could name is quite long, about *nine or ten feet wide*, and sunk *down, down, down* beneath the surface of God's EARTH, far away from the position where God called forth light and saw that it was good!

We may contend that this and that, and everything has been done properly for these inside borders, but after all, when some common sense practical man comes to look for the true cause of the failures, it is seen in a moment. What practical gardener, of experience in grape culture, would attempt to control the moisture from, or on, vine roots in the Fall of the year? These absurd notions have been the cause of killing more vines perhaps than all the other ridiculous directions put together. When the border is wholly inside the house, it should be plentifully supplied with water, and so arranged that the labor of pumping be avoided. Inside borders should have the *direct rays of the light shining on them*, and then my friend Dr. Houghton will find that the "some magnetic or electric influence from the body of the earth" can be, and is, of some necessary importance as life to the vine. Inside borders we should always use when the fruit of the vine is required very early, but under no other circumstances, unless the condition of things compelled it. Then, we say can be grown as fine grapes with a border wholly inside the house as we can outside the house—only, it requires a little better judgment in the management—a little more care, and a good deal more of determined perseverance. Keep all your nostrums out of vine borders. Make the border never over three feet deep of soil. Apply stimulants to the top of the ground when the vine is in fruit—the time it requires it—not when a young plant, to gorge it full of obnoxious ammonias, Tartaric acids and a host of quack medicines! Suppose we study the subject of light a little more—its influence and action, and non-action on the atmosphere and soil of the inside grape border. If our M.D's. of medicine would study this question of light and its influence on the vine and other plants cultivated under glass roofs one half as

much as they have given their attention to the action of light on the human organism, we should find, and gladly too, that the subject of horticulture was greatly indebted to them, above that which to-day stands to their credit. From what Dr. Houghton has written in the article in Hovey's Magazine, (and he writes with much force), its logic and influence may produce a similar effect on the minds of its readers, as did his articles when writing of the *super-excellence* of (now these dethroned, and miserably conceived) aerated, suspended, isolated, detached, concreted divided inside borders of Mr. Bright and Dr. Houghton!

Now, what we wish to say is this—that the inference deduced from the Doctor's letter is that "inside borders" are a total failure. That the vines will die and dwindle away so soon as they begin to fruit. That this is the Doctor's experience around the city of Philadelphia, at the same time the impression is conveyed to the mind that inside borders must of necessity kill vines everywhere else. I conclude this note by inviting the Doctor to Fox Meadow Gardens, where I will show him two hundred and seventy-two feet in length of *simon pure inside border*, which never had a particle of dung or bone in it; the vines have been in fruit six and seven years; many of them will measure nine inches in circumference, and from which we have cut bunches of grapes, weighing seven pounds—will prove it by our books, and will be able to show some bunches of that weight this present season. INSIDE BORDERS A FAILURE! WHO WILL COME AND SEE?

[Fox Meadow, to prove his assertions, that grapes can be well grown by his method, has sent us a magnificent bunch cut from a vine growing on an inside border. With such proof who can disbelieve? Eds.]

NOTES ON THE JUNE NUMBER.

VENTILATION.—In the earlier volumes of the *HORTICULTURIST*, some fifteen or sixteen years since, its then editor, the lamented A. J. Downing, wrote upon the subject of ventilation, and from his writings introductory has attention more and more been drawn to the actual necessity of pure air for health. At that time, not one public hall or church in a hundred had any means of ventilation, except by the doors and windows. At this present time, few who claim to be architects omit the detail of ventilation in making up their specifications and working drawings, so that most of our houses for public meetings are in some measure supplied with pure air. Our smaller houses, the residences of the masses of our people, are, however, as yet, without any means of ventilation, except by the doors and windows, and I am glad to see the *HORTICULTURIST* again touching the subject.

RURAL ARCHITECTURE—SMALL STABLE.—Mr. Harney has my special thanks for this design. It is, to my eye, the best thing I have met with; and while he estimates the cost at \$1,200, there are many sections of the country in which readers of the *HORTICULTURIST* reside, where it may be built for one-half the money.

GRAPE-VINES FROM SEED.—The writer, I judge, takes much my own view of the probable advantages of scientific hybridization over that of seeds selected from choice kinds, and with a probable chance of natural cross impregnation. While I would discourage no man's careful attempts at artificial or scientific hybridizing, I yet believe his chances of success in the production of a valuable variety equally good when taking seed from a variety surrounded by others, and all choice kinds. We have the statement that Creveling is made to set its fruit more abundantly by having the Concord contiguous. The cause must, therefore, probably be, that the impregnat-

ing characters of the Creveling are deficient, and supplied by the Concord; hence, plants grown from seeds of Creveling so impregnated would possibly produce a grape resembling the Concord, but ripening with the Creveling.

The Iona in its fruit partakes of Catawba and Delaware, while the growth is more of Diana, which latter undoubtedly came from seed of Catawba.

The cherries originated by Professor Kirtland were obtained from seeds of a yellow Spanish tree, surrounded with Black Tartarian, May Duke, and other choice kinds, and their impregnation was the work of Nature; but when Nature had acted, the watchful cultivator seized the seeds, and obtained from hundreds, nearly all showing some good qualities, a few very superior sorts. It was, however, a work of time, and so must ever be the production of anything really an improvement in pomology.

Mr. Caywood's method of sowing grape-seeds differs some from mine, but may be better. I take a small frame; set it sloping towards the north; fit on my sash; have one foot deep of good, rich, sharp sandy loam in it; and when I have a few seeds of a choice grape or pear, I plant them at once an inch deep in the soil, keeping my sash on, occasionally giving air, that it may not get damp or mouldy. In this way, seeds of nearly everything can be grown—There is no hastening, it comes in course.

HOUSE FOR DRYING FRUIT.—A capital design, which, as apples promise a full crop this season, I hope to see frequently built, in order that we may have dried fruit clean and wholesome, and not, as is too frequently found, overspread with the filth of flies.

HEART'S PIPPIN.—Will not Mr. Downing give us some account of this apple, its origin, &c.

PROTECTION OF PEACH TREES IN WINTER.—Mr. Jenkins has given us a practical

and descriptive account of his mode of growing peaches yearly out of doors, and in unfavorable climes and seasons. If our seasons are to continue as they have the past few years, we shall find this practice, although embodying some labor and trouble, prove a profitable part of the fruit grower's life.

PLAN FOR LAYING-OUT A SQUARE ACRE LOT.—In the main, a good plan; but there is too much of carriage-way for the amount of ground, and I have always had an aversion to circles in front of the house, because if left open, that is, in lawn, there appears no reason for traversing fifty feet to get ten; if massed with shrubbery or trees, with a view to giving a reason for the curving of the road, then the extent of grounds from the house is reduced. In this plan, keeping its main features, I would, on entering from the street, dispense with the left hand road, throw in a mass of trees from the gateway on the left hand side, and open the balance toward the house into a lawn, forming my turn way on the side toward the stable.

WHARTON'S EARLY PEAR.—Some years since, I ate of this pear at Cincinnati, and then thought it one of the best large-sized early pears in cultivation. Perhaps Dr. J. A. Warder, or Mr. R. Buchanan, will tell us something of it.

MARGARET PEAR.—It is not every new pear that proves of great value, nor is it always the largest sized fruit that proves most profitable. The market-grower, as well as the amateur, requires the tree to grow freely, prove healthy, bear abundantly fruit of good size, and a quality pleasant and agreeable to all, even if it is not of the highest flavor. These new sorts should be tried extensively—if good, retained; if inferior, regrafted.

HORTICULTURAL MATTERS AT THE HAWAIIAN ISLANDS.—A pleasant, readable letter, promising us a classified list of the products of Honolulu, which we shall be most happy to read.

MY NEIGHBOR AND HIS GUN.—There, now, friend F., you have fired your shot, and if it will only be half as destructive in

checking such neighbor's practices as you say his gun is upon the sweet songsters, we may look for a check to this practice. The suburbs of our cities, especially at the West, have other bird destroyers, yet more injurious, because they roam at will over your grounds, pulling down fences, and trampling down plants. I refer to more or less of English and German foreigners just over, and who think to handle a gun, and shoot a robin or little red squirrel, one of the great items of living in a *free* country.

POTS SHOULD BE DRAINED.—Mr. Cowan has certainly theory, as well as the result of actual practice, to sustain him in the draining of pots or plants. Mr. Henderson undoubtedly is successful in his way; but it is, perhaps, a query whether the old practice is not the better one. As I have before written, all innovations are not improvements.

FOWLS AROUND A COUNTRY HOUSE.—All right. I will only say that, while colored dorkings may be all here declared, a cross of speckled dorking and Shanghai make really a larger and better bird for both table and laying purposes; but remember you must always have a pure dorking male bird, or soon your flock is deteriorated to little better than common barnyard fowls. Strictly for laying purposes, when chickens are not to be raised, I suppose no breed equals the Bolton Greys, or Creoles. The Black Spanish come next to them, and are certainly—that is, the white faced ones—most beautiful birds.

GLAZED VS. UNGLAZED FLOWER POTS.—Here is a chance for Messrs. Cowan and Henderson. I reckon if the glazed pot were used, some drainage at bottom would be found essential to the health of the plant; and if good drainage is given, I do *know* that very fine plants are grown in glazed pots in a house living-room, heated by a stove. As Mr. Reid says, the circumstances are not always more than half told, hence the truth is half a lie. The experimenter cannot be too minute in recording the position and circumstances under which he has success or failure. REUBEN.

E. W. BULL ON GRAPE CULTURE.—II.

BY. J. M. MERRICK, JR., WALPOLE, MASS.

THE first season after planting, all that is necessary to be done, according to Mr. Bull, is to keep the ground well stirred, by means of the cultivator, so that the roots may easily penetrate the soil.

The vines should be allowed to lie upon the ground the first summer, the ends of the growing shoots being occasionally pinched, to set back the sap and consolidate the wood, which, if properly treated, is to last for centuries.

If the vines grow so long that the wind rolls them over on the ground, put a stone on them to keep the leaves right side up, remembering that it is better for the vine to be blown about by breezes than to be tied stiffly to a stake the first year.

"I do not stop here," says Mr. Bull, "to offer abounding proofs of the fact that it is better for a vine to be blown about the first season, but will only say that I have found by actual experiment that the vine tied up closely will not grow nearly so much in a given time as the vine left free to move as the wind moves it.

A grape vine should never be pruned at the time of planting, not even to give it shape, so important is it to get a well established vine with *abundant roots* before it begins to bear fruit."

In his fourth and fifth papers, Mr. Bull reviews some of the leading methods of training now in use, including the renewal, or long-arm system, involving the use of two poles to each vine, and which he pronounces the best where the vines need winter protection; the short-spur system, which he affirms gives the best grapes; and decides, finally, that the espalier mode of training is, on the whole, the best.

It costs more at first than othersystems, but is economical in the end.

For this method, posts are needed from four to six inches in diameter, and eight feet long; and scantlings two inches square and

twelve feet in length. The posts should be set two feet deep and twelve feet apart.—This distance brings the posts between the vines, which are six feet apart; and the scantlings will reach from one post to the third beyond.

The strips of wood should be firmly fastened to the posts, the lower one eighteen inches, and the upper one six feet from the ground. Wires one-eighth of an inch in diameter, should next be nailed on the bars perpendicularly, and at a distance of three inches from each other.

This arrangement of the wires is preferable, for the reason that the tendrils fasten upon the perpendicular supports readily, and no tying up is necessary, as in the case where horizontal wires are used.

When the vine has reached the lower bar, the shoots from the two upper eyes are to be laid in diagonally, and tied so as to give the vine the form at the end of the season of the letter Y. It is to be pruned back to the well ripened wood, wherever that may be.

The next year the buds left on the diagonal arms will grow, and bear fruit—a light crop should be taken. Superfluous shoots should be rubbed out, and the two terminal shoots laid in diagonally, as before.

When the trellises are filled with bearing wood, six or seven tons of grapes may be had from an acre.

Such is a tolerably fair *resumé* of Mr. Bull's very practical papers on viticulture. The main points he insists on, it will be observed, are—the thorough ploughing of the soil; no shortening of roots in planting; no trimming the vine the first year; the use of mineral manures only, and those in small quantity; continually pruning back to thoroughly ripe wood, and the adoption of the espalier for training the vine, giving each vine two diagonal arms.

He does not claim, we presume, that he

advances any very original advice; but we have the satisfaction, in reading his papers, of knowing that he recommends only what has proved useful and profitable in his own hands.

We call especial attention to his advice not to shorten the roots at planting, and to the small quantity of manure he uses. In regard to this latter point, the correctness of his view will become apparent when we consider how very small a portion of the constituents of its fruit the vine takes from the soil, and how large a part from water and the air.

The grower of out-door grapes in the New England States must be prepared to meet with occasional trials and vexations.

Late spring frosts are much to be dreaded.

This year, there fell a frost on the night of the 14th of May that really discouraged some of us.

My pet vines—Allen's, Rogers' Hybrids, of various numbers, Ionas, Israellas, and others—which were trained last year as symmetrical as the "pictures" in the grape books, and had made a growth of from two to six inches this season, were very many of them utterly ruined.

The hints I had thrown out to my acquaintances, to the effect that they might call on me in the fall if they wished to see some of the newer kinds in fruit, have lost much of their significance, as I have now, with my best vines, two years' work to do over again.

I think the late spring frosts are much more disastrous than those which sometimes assail the vines in late September.

Of making books there is no end, certainly no end of making books upon grape culture.

Two works, very different in character and value have just been published, and seem to demand a passing notice.

The better and less pretentious of the two is "*My Vineyard at Lakeview*," a charming little book that professes to give the actual experience of a western grape grower, detailing not only his successes, but his blunders and failures. It is written in a pleasant style, without any attempt at

display, and contains much advice that will prove very useful to a beginner—the more useful, because derived from the experience of a man who has had no leisure for fanciful experiments, but has been obliged to make his vineyard support himself and his family.

Of a different class is Strong's new book on grape culture. We must confess that this book disappointed us.

It was introduced with so loud a flourish of trumpets, and is so magnificent in external appearance, that it was only fair to suppose that its contents would prove valuable, and furnish growers with some new ideas.

Very few new and original suggestions, however, are given by the author, whose whole work, where it is not a mere compilation, seems too much inclined to be theoretical, and to recommend methods of growing and training the vine that have not stood the test of actual trial.

Every amateur, of course, on receiving the book, turned at once to the chapter on *New Varieties*, expecting from a grower of Mr. Strong's experience, a full and critical examination of the many newer kinds of grapes, which are to most of his readers names, and nothing more; but it is safe to say that many readers have felt as much vexed with this chapter as with any other in the book.

We do not regard the book as any improvement on our old friend, *Fuller's Manual*; and while there is room enough for a new book of new ideas on grape culture, we see no place for mere compilations, and repetitions of familiar notions.

I am obliged to Mr. Caywood for his encouraging remarks in the June number, and beg leave to say to him that the greatest vexation I experience in planting grape seeds arises from the fact that not one in twenty of some kinds ever germinates.—Some come up as even as a row of peas, but most kinds are exceedingly capricious.

What seems a desideratum in such experiments is uniformity of germination. How can this be attained?

LETTER TO COUSIN SELINA.—II.

MY DEAR COUSIN I can fancy that on this mid-August day, in the old Homestead, you are all faint, oppressed, and weary, with excessive heat. I seem to see Uncle Simon reclining listlessly in his ample chair on the piazza, smoking his comfortable pipe, and alternatively dozing and reading the country paper, while cousin Washington, his face bronzed with the long summer's exposure to the sun, and glistening with the dews of perspiration, starts afieid, after his accustomed nooning, with oxen and cart. How hushed and calm all nature is. The hot sun pouring down a flood of rays; the quivering air which comes and goes in burning waves, like the even breath of a sleeping infant; the green leaves, turning up their discs towards the sun, or sensitively shivering in his gleam; the sharp ringing sounds of the insect tribes that love the sun and poise themselves in his burning rays; the calm unruffled surface of the little lake that lies in the hollow of the hills and gives back the images of banks and rocks, and trees and clouds:

"The summer like a victor
On a car of glory borne,
With a thunder-roll at even,
And a clarion blast at morn,
And a wild illumination,
Lighting up the living air,
Till our temples throb with fever.
And we faint beneath its glare."

All this I can *fancy* up here among the New Hampshire mountains, where the temperature is now so low down in Fahrenheit as to render the stove in the hotel parlor an object of considerable favor and affection.

On my way to the White Mountains, I took in, as I purposed, a few days' sojourn at Nahant. I should like to tell you about the sea, but one or two persons have mentioned the subject before, and I modestly doubt my ability to say anything new. At Lynn it was my habit to go in the morning and seat myself upon a great rock, around whose base the waves, calmed into gentle

ripples, lisped and murmured some liquid syllables that I could not translate into the language of men. There, in a little hollow, I rested in the sun, watching how the silver-white flowers were born and vanished on the undulating swells of that faithless blue meadow, and wondering if the sea-serpent were pasturing there; and if he should chance to come along and snap me up, like a dandelion top, what a paragraph it would make for the newspapers!

At low tide the tops of numberless rocks are visible, covered with thick palls of seaweed, like half-drowned giants, or submerged Medusas, black and shaky. Few ever visit that cave, and there is no sign of life there, except the living, thrilling unrest of the sea, and the "immeasurable laugh" of its waves. The other day, I went out to the long beach in the storm, to see the breakers, and it "paid" well, although I was almost frozen with the cold, altogether buffeted with the wind, and stunned with the roar, yet I could not resist following the retreating waves down the sands; but quick of foot was I when back there came a mighty green billow, crested with curling foam, and projecting its spray a long distance beyond me. I did not attempt racing with the breakers again; but when the under-tow sweeps so gracefully back, one feels an absolute desire to be borne along with it.

From Nahant to the White Mountains, I had left behind me the sea, but on the morning after my arrival, I looked down from the summit of Mount Washington upon another sea—and what a sea! Waves of water at their highest are, I believe, not much higher than the fore-top of a man-of-war. Waves of vapor and mist, they alone are sky-seeking mountains, dashing high, but with no ocean's roar; and in their silent ascension, all held together by the same spirit, but perpetually changing their beautiful array. Here were mountains in a sea. Far up, above and amidst that wondrous

region of mist, through which you hear voices of waterfalls, deepening the silence, you behold an array of mountain tops, blue, purple, and violet, for the sun is shining straight on some, and aslant on others, and on others not at all.

Have you not seen sunsets in which the mountains were embedded in masses of clouds, all burning and blazing; actually blazing with magical mixtures of all the colors that ever were born of light, intensifying into a glory that became insupportable to the soul—as insufferable to the eyes, and that left the eyes for hours after you had retreated from the scene, even when closed, all filled with floating films of cross-lights, separating the imagery into gorgeous fragments? Such was last night's sunset at the Glen House. Behind us were "the thin, high ridges" of Mount Carter and its spurs, 3,000 feet in height, and green with unbroken forests to their crests. On the south-west, one sees the steep, bony braces of Mount Washington, running off, one behind the other, into the Pinkham forests. Directly in front are the out-works and huge shoulder of Mt. Washing-

ton itself, and behind this heavy shoulder on a retreating ridge, the pinnacle where the Summit House stands. Associated directly with Mt. Washington, and bending around to the north-west and north, are Mt. Clay, rising over the huge 'Gulf of Mexico'; the stout, square-shouldered Jefferson; and the symmetrical, sharp, and splendid pyramid of Adams, with its peak so pointed that it looks unscalable. This mountain is by far the grandest of all in shape and impressiveness. And next to this, with lines running eastward, is Mt. Madison, which completes the "staff of Washington," and forms that wonderful and magnificent panorama which the gorgeous sunset revealed and glorified.

My sojourn among the mountains was short from necessity. If I can persuade myself to a summer's vacation next year. I shall assuredly be off among the White Hills of New Hampshire.

With accustomed remembrances to all the inmates of the Homestead,

I remain, your loving cousin,

REUBEN.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

POSITION OF HOUSE.—In building, the first thing always to be considered is the place whereon the house shall stand. Now we might write a long article on this subject, but shall confine ourself to a few plain and practical truths.

First. It is conceded that to look well, a house, if by itself not part or parcel of a block, must have a broad and clear base of say at least ten to twenty feet to stand upon. If the ground right about the house is at once sloped or graded from it, then the house presents the appearance of being

on a point, and liable to topple over at any time.

Second. There is no loss of ground in placing the house in one position more than another. Each and every portion occupy just the same amount of ground.

Third. There is more enjoyment usually obtained from the front than the rear of the house, because it is expected all the living rooms of winter will look out toward the front; and in summer's heat there is the place where of an evening we all do sit.

Now, with these conceded features, we

will assume one more, viz., that the more ground before a building the more is its dignity and character. Enhance and then urge upon those who are about to build, the advantages of placing their house well to the rear of the lot. If a suburban lot near a city, your time mostly occupied away from home, your garden is only an expensive luxury—every bean or radish costing you three times what it can be bought for in the market; but fruits of every sort can be managed by yourself; and they are always better from the bush or trees. You can just as well occupy a part of the ground in front of the house with them as with shade trees; and thus in placing your house well back, you have lost no ground. Of an evening sitting, to be well back from the dust and sidewalk gives that retiracy and homeness which we all seek, and which we cannot have when our house is very near the street.

If in the country, on tracts of five to fifty or more acres, the placing of the house well back from the road is even of greater moment, as it gives not only increased character to the place, by adding appearance of extent, but its advantages are in enabling its owner to look over his place from its residence, and perfect freedom from dust, straggling beggars and thieves.

As before said, we might write a long article on this subject, but think what we have said should be sufficient to induce any builder to place his house well back from the road.

THE FRUIT CROP.—This year, we believe, will prove less than an average. Cherries have been in many sections a total failure; in others only a moderate crop. Strawberries, at the West, were very much injured by the winter; and the currant and raspberry crop is almost a failure. Pears were much injured while in bloom, and, together with apples, are largely dropping before mature. Grapes, through the West, in old vineyards especially, are less than a half-crop, while many vines are entirely destroyed.

MILDEW ON THE GRAPE.—Our readers should remember the mildew and apply such suggestive remedies or preventives as appear plausible. We have advised trial of weak salt water, weak copperas water, flower of sulphur, sprinkling with weak sulphur water, &c., all of which we hope to hear trial made of, and will thank our friends for notes of the results.

GRAPES FROM GENOA.—In 1845, Mr. Lester, then consul at Genoa, brought to the States, vines from Piedmont and Savoy. They were advertised to be sold on the 4th July, 1845. What has ever become of any of them? Who can tell?

TOMATOES.—The first record we have (in our library) of the use of the tomato as food was in 1803, although, we believe, they were used as early as 1792, and perhaps earlier. Who can enlighten us? Of varieties cultivated this year, we shall be obliged to our friends for notes. We have a seedling with a very broad leaf, that, during the past two years, has matured earlier than any variety we have purchased. We are watching it carefully again this season, side by side with Tilden. As we write, it has fruit as large as English walnuts, while the Tilden is only in blossom. Perhaps the latter will catch up. We shall watch it!

BLIGHT ON FRUIT TREES.—Recently we have had accounts from Northern Ohio and other sections speaking of a blight affecting the ends of all young twigs in pear, apple and quince trees. In some cases not only is this year's growth affected, but more or less of the last years' growth, until the trees look as if a big fire had been made near and scorched them. Can our entomologists tell us if this be not (as we suspect) the attack of the *Scolytus pyri*, and is not because of the crude sappy condition of the tree?

SHADE TREES.—This is the month when we most appreciate shade. And now, good readers, we want you, in the country, to,

for just one moment, while enjoying the cool shade of elm or maple, think of the little children sitting in the one story school house on hard benches—no backs—the sun in open exposure at 105, and not a tree or other obstacle to intercept its effect on the roof. Imagine yourself confined there one half hour, then you will without a doubt resolve to plant shade trees around that school house wherein your and other children have to while away long and tedious hours in the heats of summer. Our word too, you are less than man if you don't keep and put in practice your resolution.

It is desirable that the laborer, as well as the head-gardener, should take an interest in, and see, the higher operations of the art; he will perform the lower ones all the better for the apprenticeship. Though he be likely never to have a vinery or a pinery of his own to attend to, an initiation into their mysteries will help him to treat his children to a plateful of early radishes, and his wife to a dish of out-door grapes, when he has a cottage, wife and children, of his own. We have observed in the gardens of those laborers whose opportunities are above the average of their class, most pleasing evidence of knowledge they have thus acquired. Just as a course of mathematics at college would make a man all the more valuable as an accountant.

THE extreme geographical limit at which horticultural practices have been carried on, is probably marked by Sir Edward Parry's cultivation of mustard and cress, "Sallets good for the scorbutic," while exploring that most fearful of *cul-de-sacs*, the North-West passage. This was certainly venturing a high, if not a great latitude in gardening, and deserves to be remembered as one of a thousand instances of the benevolent wisdom habitually exercised by men devoted to scientific explorations in inhospitable climes. Parry's ship was the Ultima Thule of kitchen, as well as winter gardens.

THERE ARE between forty and fifty known varieties of the Ivy, some of them arborescent. Many of these varieties are adapted to surface covering, and others are much esteemed for forming belts or margins to flower beds, and for training over wicker work around beds. In this latitude, the ivy grows better on a north wall than on a southern exposure. The intense heat of our summer suns, at certain stages of its growth, seems to be fatal to the life of the "ivy green."

THE SPOTS which we observe on fruit, such as apples and pears, are generally produced by a minute, brown, parasitic fungus, growing beneath the cuticle of the fruit. This fungus, instead of penetrating the fruit, comes out upon the surface, and destroys the vitality of the surrounding tissue, and thus "makes its mark." In some fruits this growth is so vigorous as to cause the surface to crack, and in this way, almost destroy the crop. As the growth originates beneath the skin, it is almost impossible to apply a remedy.

VIRGILIA LUTEA—YELLOW-FLOWERING VIRGILIA.—A short time since, we saw a tree of the Virgilia in flower in a gentleman's garden, and, although it is described as having *yellow* flowers, there were *white* racemes, about eight inches long, like a bunch of grapes, only more pendulous; the foliage is dark and rich. Can it be an error of color of flower has been made by botanists, or was this a freak or sport of a single plant?

THIN OUT THE FRUIT.—If fruit is set too abundant on your trees, set about thinning it out at once. It may now seem sacrilege and a loss; but if you do not believe one say so, that the one half remaining will, at maturity, be fully as much in bulk, and more beautiful and superior in quality, to what it would had all been left on; then try the experiment on one tree, and give us a record of results at a future time.

FRUIT AT THE SOUTH.—The late devastation of war has undoubtedly destroyed a great portion of orchards at the South that soon will have to be replanted. The Northern States are quite unreliable for peaches; but, as a crop, it was, in former years, regarded one of the most profitable at the South. We have been looking over old records, and find the testimony of nearly all the best growers is, that the best sorts at the North were also the best sorts at the South.

In our earlier days, traveling South, we found the Columbia and the Heath both reproduced and grown as seedlings in hundreds of cases.

FRUIT LADDERS, for gathering apples or other fruit on tall trees, should always be on hand. The time saved in gathering even the fruit of one tree, will often pay the cost of the ladder, to say nothing of the saving of injury done to the tree, and the fact that all fruit carefully hand-picked brings extra price in the market.

THE TILDEN TOMATO has already acquired reputation among those who cultivated it. As far as experiments have gone, it would seem that its good qualities consist in its size and shape, the solidity and firmness of its flesh, its excellent and refined flavor, and its quality of remaining long on the vine after it is ripe, without decaying. If these merits shall be satisfactorily established, after fuller experiments in its cultivation the present season, it will prove a valuable acquisition to the kitchen garden.

THE MAHALEB, or perfumed cherry, so generally used by the nurseryman for dwarfing the cherry upon, is one of the most beautiful of second-class size for ornamental planting, and especially advisable in grounds of small extent. It adapts itself to, and grows freely in all soils; is elegant in its foliage and spray; fragrant in its flowers and foliage; clear of all insects; and retains its foliage quite late in the autumn.

CHEAP PAINTS.—Some years since, upon a recommendation in the *Albany Cultivator*, we tried the following mixtures for paints, and found them quite successful:

1. Water lime cement, and raw oil, using any dryer common to white lead oil paint. 2. Cement and coal tar, shading the color with ochre—Spanish brown, &c., to suit. Both modes give good results; and, for coarse buildings, we think the latter even better than oil paints of white lead, &c.

SAVE THE LEAVES.—As the leaves commence dropping in the fall, they should be carefully gathered, and housed under a shed, for use as stable bedding, or for mulch protection to tender plants, or for the formation of hotbeds in spring.

GREEN HOUSES should be carefully repaired and cleaned before placing plants again in them for the winter. This month will be found of much leisure for the purpose, and the work should not be postponed.

APPLES AS FOOD.—Somewhere—we do not recollect just where—we have read an analysis of the apple, in which sugar and dextrine, two valuable agents in the support of life, were recorded as largely in its construction. Health, all physicians, as well as common sense observe, is aided by the free use of ripe fruit, and of the apple in particular.

BELLE MAGNIFIQUE CHERRY.—We have watched this cherry many years, with conflicting views as to its value. The tree is hardy; a good bearer; and when most of other varieties are rotting, or perhaps so abundant as to be no rarity, the fruit of this is quite green. Afterward, it ripens up, and gives us fruit from the last of July to middle or last of August. It has, however, one objection, to the make haste of Americans, in that the tree requires size to produce a quantity of ripe fruit at one time. While the trees are young, only a few specimens may be gathered at a time.

Messrs. EDITORS:

A very dry season here, but, apart from ills of transplanting in drouth, reasonably to farm and garden. Fruit crops an average; cherry above an average; peaches, possibly one to the square mile hereabouts—in Egypt, southern Illinois, full crop of seedlings; light crop of budded. Speaking of cherries, the practical sum total of the catalogues for this section is:—1. May Duke; indispensable, though least reliable bearer of the set. 2. Early Richmond; the great staple. 3. Late Kentish common red, or pie cherry; very like Early Richmond, but ten or twelve days later.—4. Belle Magnifique; truly magnificent and worthy; late; in season now, and for a week or more to come. 5. English Morello; the earliest, surest, and best bearer of all; a perfect marvel of productiveness. The fruit is not as good to eat as our all-prevailing common Black Morello, which, were it as uniformly productive as the others, I should certainly include in this list; as it is, it would be with me the sixth for the West. The Kirtland, Governor Shannon, and Plumstone Morellos, after fruiting five years, prove too shy. The fruit is large, the season now, with Nos. 4 and 5 of the above list.

Of strawberries, Wilson is worth all the rest twice over. Russell, even with best opportunities to fertilize, is shy. I notice that the Buffalo and McAvoy's Superior are called the same, which I most gravely doubt. I have Buffalo from a good source, and have seen it two removes only from original grower (so said), and can safely and utterly, in those two cases, deny identity with McAvoy's Superior, which I have known well for ten years, which is irregularly shaped, darker and rougher surfaced in fruit, also later than Buffalo.

McAvoy's Superior is one of the very latest old sorts, and a great bearer usually, though pistillate. The foliage, also, is thinner, greener, and less crumpled than Buffalo, which, so far as I have seen, is very shy West; the fruit more polished; like Hooker's in general appearance.

For a very late berry, nothing here can compare with Georgia Mammoth, Though a light bearer, yet it is so hardy, and the fruit so firm, sweet, and late, I would not dispense with it. Especially is it valuable from its utter distinctiveness, and its possibilities as a parent of new sorts. We still have the fruit, though the black raspberry season is over, and fully six weeks from our first ripe strawberries.

And now of grapes. Again, and for the hundredth time, the writer begs to ask why not every true friend of the cause take pains to find out the very hardiest, best Northern natives, and introduce them, for the purpose of rearing new iron-sided varieties for our mighty vineyard interest. Who but feels that, could we but get up the right varieties, the victory were two-thirds won.

And now, with such perfectly hardy natives in Minnesota, Wisconsin, Canada, northern New York, New England, why work so persistently with comparatively half hardy sorts, as Catawba, Diana, Isabella. Is it not too much like child's play? To-day, there is not a known acknowledged staple variety, that fills the bill on the all-important question of hardihood in foliage over summer, and wood over winter, leaving all other characteristics out of the question. The Concord is nearest perfect in these particulars, and probably in foliage all that reasonably can be hoped for; but, in vine, it might be much more hardy over winter, besides other needed qualifications. The thing is here: the great need of the country when this grape fever first came up has been largely overlooked. Think of the thousands of cultivated varieties in Europe, and of the ten thousand native American varieties, and then tell me if the present meagre list of our cultivated sorts here is not discreditable?

There should have been a thousand fierce growers of, and experimenters with new seedlings and combinations. Why not? And then, in the crowd, we should have found scores of choice, or at least promising varieties. Why not begin this year?

Bloomington, Ill. F. K. PHOENIX.

Messrs. EDITORS:

Your sensible and good-natured critic, Reuben, in the May and July numbers of the HORTICULTURIST, takes the position that gothic or gable houses are out of place, except in hilly regions, like the highlands along the Hudson River, and similar localities. I know that he is by no means alone in this opinion. Now, without any pretence on my part to architectural knowledge, except an amateur's taste, I would like to ask, is this so? Can we have on our dead level plains, where Nature has but little to imitate, no variety, but monotonous, square, low-roofed houses, making everything a duller, deadlier level still. Or perhaps on level land, to imitate Nature would be obliged to make the roof concave, like the concave heavens above us. Some one in Brooklyn, E.D., did carry out this idea, only a little more so; and I should like Reuben to take a stroll there some day, and see the effect of this concave, architectural, Nature-imitated building. It would, I think, create a doubt in any one's mind of taking universal Nature as a guide in every specialty, for Nature, physically as well as morally, has some awful gaps.

But if the principle alluded to above is true, that gable houses on level lands are not in keeping with correct principles of taste, how is it that the Romanesque and Gothic rural cottages of England are so much praised by travelers, and recommended by leading architects, such as Downing? And how is it that cathedrals in the old world, and their imitations in this, with their extreme style of arches, peaks, and gables, though, in most instances, built on the dead level of streets—how is it that they are so much praised, without the least objection to the fact that they are not surrounded by abrupt hills, or projecting cliffs? Is this taste, though always so much lauded, still a false taste?

My object, Messrs. Editors, is not to criticise your good critic, but as a learner seeking information.

P. D. O.

HORTICULTURAL NOTES FROM MAINE.—

Messrs. Editors.—Having room in this envelope to send an additional note, I will jot a few items of horticultural matters in this extreme of Uncle Sam's dominions.—Though this is not what is considered a fruit-growing region, yet we manage to grow some varieties in sufficient quantities for home use, and quite a surplus for exportation. This is the case with the apple, which is the leading, and perhaps I may say, the principal fruit grown here. The Baldwin is the leading variety grown, and we can annually produce specimens that will equal any grown in other portions of the States. They have been selling this spring at \$2.50 per bushel. The prospects for a fruit crop this year are quite good, the apple orchards being just in blossom.—We have two insect enemies of the apple, which threaten to destroy our orchards, and put a stop to apple-growing. They are the borer (*Saperda bivittata*), and the tent caterpillar (*Clisiocampa americana*). The latter has been very destructive the past three years, and their numbers seem to be increasing, in spite of the war waged against them on every side.

Cherry and plum raising has been to a great extent abandoned, because of the black-knot, which has overrun and killed our trees. Grape-growing is as yet in its infancy here, but has already been quite a success. The varieties which seem the best adapted to our soil and climate are the Delaware, Concord, and Hartford Prolific, bearing well, ripening perfectly, hardy and free from disease. Most of the small fruits can be grown to perfection. Currants are a sure and heavy crop; and the southern part of the State is peculiarly adapted to gooseberry-growing. Houghton's Seedling is free from mildew. Strawberries, raspberries, and blackberries plenty in the natural state, and grow finely under cultivation. Considerable attention has been paid towards growing cranberries the past few years, with a good degree of success.

If you find any items of interest in these

hurried lines, you are at liberty to "cut, and come again."

Your's truly,

GEO. E. BRACKETT.

BELFAST, Maine, June 10, 1866.

HORTICULTURAL PAPERS & MAGAZINES IN GERMANY.—There are published in Germany about one dozen horticultural papers. One of them is published quarterly, the others are weeklies and monthlies. The subscription price is from one to five and one-third thalers. Four or five of them are illustrated. Advertisements pay from one to two groschens a line. Besides these advertisements, the publishers charge for enclosing catalogues, &c., from one and a-half to four thalers. Of one of the papers are printed only 300 copies; of another 400. The most read weekly has 3,500 subscribers, and the most read monthly 4,500.

This last-named seems to be the most favored. It is published in Stuttgart for two thalers (\$2.20 in gold in New York). It is illustrated, having two fine plates every month, one of them colored. The colored plates represent the latest varieties of flowers, *e. g.*, new double fuschias, a new variety of ten-week stocks (blood red), &c. Gardeners and florists generally send the original pictures of their new varieties, painted in oil by artists, to the publisher, who gets them cut and printed without cost to the florists. Besides, every subscriber receives a splendid colored plate of flowers as premium.

Horticultural advertisements are published gratis in this magazine, only publishers of books must pay for advertisements which are printed on the cover. Its size is about that of the *HORTICULTURIST*, thirty-two pages, advertisements included.

AGELLULUS.

WAYNESVILLE, Ohio, June 18, 1866.

MESSRS. EDITORS:

You enquire in June number of the *HORTICULTURIST* about Wharton's Early Pear. I took a stroll a few days since to take a look at the original tree. It stands in a

stiff sod, and is on the decline, but might be restored with the proper course; it is about fifteen feet high. You will find descriptions of the fruit and tree in Elliott's fourth edition, with the exception that he does not mention that the fruit-spurs are thorny while young. I have lived adjoining the Wharton estate twenty-five years, and have not seen the pear spoken of to my knowledge.

There are several other seedling pear trees standing in the Wharton nurseries—sacred monuments to his memory, some of which are quite promising, especially one, which resembles *F. Beauty* for size, is a little astringent until fully ripe, then becomes very good; is a heavy bearer every other year; ripe in October.

While talking of pears, I will give you the size of a pear tree I am in possession of. Its trunk measures, six feet from the ground, six feet four inches in circumference; its branches extend sixty feet in diameter. It was planted fifty years ago by Thomas Thomas, an old pioneer. A market man informed me he had one season picked 124 bushels of pears from it. The fruit I have not seen described in the books, and will give it:

Ovate, pyriform. Color, light yellow at maturity, with numerous russet dots. Stem, long, curved, set in a very slight depression. Calyx, small, open. Basin, rather deep.—Seeds, long, ovate, black. Flesh, white melting, juicy, sweet aromatic. September.

Very respectfully,

C. L. JANNEY.

NEAR DOVER, DEL., June 6, 1866.

EDITORS *HORTICULTURIST*:—

Strawberries are nearly a failure in this State; those that depended on small beds in their gardens, are without their usual supply. I am picking to-day, and may get four or five hundred quarts. With a full crop it ought to be three thousand; this, I think, will be my big day. The first blossoms that made their appearance were blind. I thought these had got a start from the few days of very warm weather in

the fore part of March. The next blossoms were right, and I had hopes of a pretty good crop; but they grew beautifully less every day. I noticed a few rods square of Wilson's, that I thought were the likeliest I had ever seen, with berries as large as the end of your finger; the next time I went to look, they were gone. Thinking that I had missed the place, I went again in two or three days, but they were not to be found. This was new land, and as nice as could be found anywhere. It was in good order, and when done setting, it cost me a hundred dollars per acre. When I found out that I had failed in a crop, I laid the blame on the land, and felt like the old fellow in Shakspeare, who had lost his rum bottle. "I care more about the disgrace and dishonor, than the loss."

The last of February I trimmed my grapes, and found them at that time to all appearance *injured*, and about that time I cut off and grafted thirteen worthless vines, with the Iona. All of the grafts have put out and look as if they would do well. These were well covered up with stable manure. The vines that these grafts were taken from nearly died after that time. One, a two year Allen's, was killed to the ground. Three or four Concordes on the west side of the house are the only prospect I have for grapes. The Russell and Buffalo strawberries are not worth going over.

Yours, respectfully,

P. HAMM.

WILSON'S EARLY BLACKBERRY. — We have again received fruit of this new blackberry (noticed August, 1865,) from Charles & J. S. Collias, Morristown, N. J.

The berries are ripe, and in fine condition, July 16. It is very prolific, and of good size and flavor; but its chief merit consists in its time of ripening, which is about a week or ten days in advance of the New Rochelle, thus prolonging the blackberry season. We understand that it is being extensively planted for market purposes.

AMERICAN POMOLOGICAL SOCIETY.—Our readers will remember that the Eleventh Annual Session of this Society will be held at Mercantile Library Hall, St. Louis, Mo., commencing on Tuesday, September 4, 1866, at 11 A. M., and continuing for several days.

Packages of fruit, with the name of the contributor, may be addressed as follows: "American Pomological Society, care of C. M. Saxton, corner of Fifth and Walnut Streets, St. Louis, Mo."

BOOKS RECEIVED.

MY VINEYARD AT LAKE VIEW.—This is a new work, lately issued from the press of Messrs. O. Judd & Co., New York. It is written in a pleasant, attractive style, and purports to give the author's experience in grape culture in northern Ohio. The author has not seen fit to give his name to the public, which fact will raise doubts in the minds of his readers as to the reality of Lake View, and of his practice and experiments there carried on.

While we find nothing new upon the culture of the grape, the dry details of other works are here presented in such a readable form, as to create a lasting impression upon the mind of the reader. Price, \$1 25.

PRACTICAL & SCIENTIFIC FRUIT-CULTURE, by Charles R. Baker. Lee & Shepherd, Boston, Mass. Price, \$4.

This work is chiefly a compilation from the agricultural and horticultural publications of the day. The author has drawn largely from foreign as well as American works, and has given us but little that is new or original.

WE have a few volumes of the HORTICULTURIST for 1863 and 1864, handsomely bound, which we will mail, post paid, for Three Dollars each. These volumes are now rare and nearly out of print. Back volumes of the HORTICULTURIST are always acceptable in payment for new subscriptions.

THE HORTICULTURIST.

VOL. XXI.....SEPTEMBER, 1866NO. CCXLIII.

LAWS OF ASSOCIATION IN ORNAMENTAL GARDENING.

BY A. D. G.

OUR country abounds with persons intent upon learning and practicing the various arts of rural embellishment. They have read of velvet lawns, leafy groves and thickets, groups and masses, vases and statues, and fountains; but they have no definite conception of what they wish to accomplish; much less do they know how to construct the scenes dimly floating in their imaginations. They do not know when to cut down a tree, or where to plant one; where to clear up shrubberies, or where to plant them; where, or when, or how to plant evergreens or deciduous trees, singly or in groups.

It is noticeable, too, with most writers on this subject, that it is made the highest end of art to produce a scene which shall be simply beautiful, or picturesque, or grand and imposing. The appeal is to the eye rather than to the mind. But may we not proceed a step further? May we not so plan and plant our grounds as both to awaken and to express some of the highest and best sentiments of the soul? Each

scene will of course demand its own expression. It may be dignity, or grandeur, grace, cheerfulness, tranquility, security. The Creator, it is believed, has given to each vegetable structure its own expression, and these, variously combined, may be used to typify some of the noblest ideas and purest emotions. And the artist who knows how to interpret nature can set about the creation of new scenes, confident of success in his work. He will not be satisfied with simply adorning his grounds with arbors, statues, grottos, and other works of art, or with planting trees, shrubs and gay flowers; he will desire to go beyond the senses, and to address the memory and imagination, the poetical and moral sentiments. If one tree is really beautiful, he will plant it for the sake of its beauty. If another, though lacking in beauty, yet appeals in some way to man's higher nature, he will plant it for that reason. A *quasi* amateur once said he would not plant a certain tree in his grounds "because it was not *fashionable*." The thoughtful gardener will not inquire

what is fashionable, but what is truly fit and beautiful, and what is interesting from its expression and for the associations connected with it.

This principle of association in its relation to ornamental gardening deserves more thought than it is wont to receive; and we wish now to dwell a short time upon it. No small share of the interest we feel in all objects, times and places, arises from the operation of this principle. The rusty coins which the antiquarian treasures up, because they bear the image and superscription of ancient kings, and commemorate important events in history, would not be received at the bank. The relics of old Egypt and Assyria, obtained at great expense and stored up in museums with pious care, what are they worth more than the lumber of a thousand garrets? Are the waters of the Jordan and the Tiber better than those of the Chippewa River or the Great Pedee? Of what value is a fragment of Plymouth Rock above any other piece of granite—or a branch from the Charter Oak, or from the trees overhanging Washington's tomb? The chief interest of our national holidays, of our annual State festival, and our various domestic anniversaries, does it not lie in the memories they revive? And the home of our childhood—what makes it the home it is, separating it from all other places on earth, hallowing its soil and endearing its very walls, unless it be this principle of association?

Many trees and plants are interesting for a similar reason. They may or may not possess the element of beauty; yet, if they have become linked with historical facts, or if they symbolize poetical and moral sentiments, or in any way deeply affect the mind and heart, they are worthy of special regard. To illustrate our meaning, let us allude first to the Cedar. This was peculiarly the tree of Palestine, bristling along the ridges of Lebanon, and crowning the hills around the Holy City. The temple and the palace were built of this wood: "All was cedar; there was no stone seen."

It was believed that "God loved it more than any other tree." The Palm-tree has both a sacred and classical importance, having been used from the earliest times as an emblem of integrity, constancy, fruitfulness, patience and victory. So of the Olive-tree: it is associated with the subsidence of the flood, and with important events in the life of the Saviour. It has always been a token of peace.

Unlike those we have just named, the Oak is a tree of all climes. Under this, Abraham spread his tent at Mamre. Under an oak, Joshua set up the tabernacle of Jehovah for divine worship. Throughout all the East, no spot was more desired for a burial-place than the shade of an oak. In Greece, it was

"Jove's own tree,

That held the woods in awful sovereignty."

In England, it has been from the first a national tree, flourishing around her cathedrals and baronial halls, and imparting grandeur to her parks and hunting-grounds. Her navy proudly sails in "oaken walls"; her army fights with "hearts of oak." The Elm is not without classical associations. The graceful white elm of this country surpasses all other species in beauty, and has been so universally planted as to have become, with the maple, almost a national tree. It is associated especially with the older towns of New England, with their training fields, their village streets and ancient farm-houses.

Perhaps no plant is more suggestive than the Vine. Originating in Persia, it found its way very early into India, Greece, Sicily, and all the temperate regions of the Old World. One has observed that "the classics seem to have been written under its shade; their pages exhale the sweet odor of its fruit." It is mentioned frequently in the Old and New Testaments, as furnishing a pleasing shade, a healthful fruit, and an invigorating and wholesome beverage. It is often used as a symbol of peace and plenty. Our Saviour has for ever hallowed it by styling himself "THE VINE,"

and by constituting the juice of its clusters a perpetual emblem of his love.

But we need not speak at length of other trees and plants in their mythological or historical relations. Some trees have a marked expression which renders them suggestive, and others have poetical and moral associations which are worthy of notice. Evergreens, as a class, suggest ideas of protection, seclusion, shelter, of smiles amid surrounding gloom, of constancy amid changes, of life amid desolation and death. Deciduous trees are more varied in expression. The maples are comfortable and well-to-do; the white ash is neat and trim, and in the autumn robes itself in royal purple; the elm is gracefully dignified; the Lombardy poplar is all aspiration; the aspen is timidity, trembling at every breeze; the oak is strength and sturdy endurance; the willow is affection, bending over the dust of the departed.

Nor are flowering plants without expression. Where is there gayety and vanity, if not in the tulip and poppy? or purity and modesty, if not in the lily and primrose? or foppery and ostentation, if not in the cockscomb and peony? Every eye sees deceit in the monkshood, immortality in the amaranth, hope even in misery in the bachelor's button, industry in broom-corn. The snow-drop and crocus are friends in the storms of adversity; unconscious beauty is in the daisy, ambition in the hollyhock, woman's affection and fidelity in the clinging ivy and honey-suckle, delicacy in the lily of the valley, unchanging love in the myrtle, remembrance in rosemary, domestic virtues in sage, and substantial worth in thyme.

Flowers are the poetry of the vegetable kingdom. They address our most delicate sentiments, and awaken our tenderest emotions. They charm us by their richness of form, color and fragrance. Their very fragility attracts us; it touches our sympathy and makes us love them with almost human affection. If proof were needed of the firm hold which they have gained upon the uni-

versal heart, we might instance the fact that they are used, in one way or another, to adorn all our daily life. They are woven into our carpets, garments, window-hangings, and nearly all domestic fabrics. Flowers are sculptured in marble, carved in wood and ivory, embossed in gold and silver, cast on our stove-patterns, stamped on our wall-papers, engraved in our books, and painted everywhere. Children love them almost instinctively; maidenly beauty delights to twine them in her hair; they adorn the bride for her husband; they cheer the chamber of sickness; they grace the banquet-table, and are fitly strewn upon the grave.

In respect to their moral associations, it may suffice to mention that the pages of Holy Writ abound in floral imagery, symbolizing man's frailty and his resurrection, representing human virtues and God's providential care. They "typify the benign intent of the universe." Springing up, as they do, on all the face of the earth, they speak of the boundlessness of God's love: they show that He is not satisfied with making man's abode simply endurable, but would have it a paradise of delight.

Trees and plants have domestic associations also. Not to speak now of fruit-bearing trees and vines, the locust, maple, elm and balsam-fir, the lilac, rose and honey-suckle have been so long planted about every country-house as to form almost an essential part of a rural homestead. Some of the pleasantest recollections of childhood cluster around these familiar objects. But, aside from long established associations, there are others which grow up in one's individual experience, and to which every passing year gives new sacredness and power. When a man sets out to establish a permanent home, the land, timber, bricks and stones are only a certain number of acres and a certain amount of building materials, costing so many dollars. But as soon as he enters upon the construction of his house, and the arrangement of his

grounds, the land and lumber begin to increase in value. The apartments, which he plans with care, seeking to make them attractive to his family and guests, the furniture which he selects for their comfort and pleasure, are all worth more than the materials of which they were made. And every year, as it adds its varied experience to the history of the household, only heightens their value. So too, in arranging his garden and grounds, if he does it with zeal, embodying his own individuality in it, he finds that the object of his labor is the object of his increasing love. Let him but plant a tree with his own hands, he at once becomes attached to it. Let him brace it against the riotous winds, water its thirsty roots, cleanse it of insects, and give it all the care it requires, and no sooner will its roots shoot out and grasp the soil, than his affections will fasten upon it and upon the very earth in which it grows. He will watch its expanding leaves with increasing love,

and every year he will take new delight in its spreading boughs and thickening shade. Other trees added to his collection, from time to time, will add new objects of interest. In planting this, a darling child held it upright, or with his little spade tried to help, but hindered the work, and, when all was finished, named it *his* tree. That was the wife's choice, and in its early growth was nurtured by her tender care. This came from the old homestead, the gift of a venerated father. Yonder shrub was presented by a friend, and this flowering plant was the gift of a beloved sister now walking amid the celestial gardens. How can one live and move among such trees and plants, and not feel that they possess a value beyond price? Each has a history of its own, and is bound up with his history. Nay, each has a life and soul, to which his own heart is linked by the strongest ties.

[Concluded in our next.]

DESIGNS IN RURAL ARCHITECTURE—A COUNTRY SCHOOL-HOUSE.—No. 17.

BY G. E. HARNEY, COLD SPRING, N. Y.

WE present at this time a sketch of a country schoolhouse, of suitable size and accommodation for about fifty pupils, of both sexes.

Enough has been already said of the great importance of making such structures comfortable and attractive; of selecting for them the very best situations the district affords; of giving them ample grounds, and carefully beautifying them with trees, and shrubbery, and flowers; and of supplying every improvement for the convenience and benefit of instructor and pupil; and the good effects of such hints may be seen plainly all about us; but there is great room for improvement yet, particularly in districts remote from the larger towns and villages, where the people are mostly, or all, hard-working farmers, who have little time or inclination to study matters of

architectural improvement, and where architecture, as a profession, has hardly, as yet, exerted any special influence. Horticultural and agricultural publications have done a great deal, however, to improve the popular taste; in fact, the whole credit is theirs, for it is to them solely, and to this very magazine—*THE HORTICULTURIST*—principally, that we owe the first awakening; and it will be to their efforts in the future that we shall look for a continuation of these improvements, having a more general circulation, and a more intimate relation with the rural population than other publications.

It is to meet the requirements of such localities that we present this design; and we think it will recommend itself by its simplicity and convenience.

It is a plain building of wood, comprising

a central portion and two wings, one on each side, and lower by three feet. The main building measures twenty-one feet by forty-two, and the wings twelve by seventeen each. The principal schoolroom measures twenty feet by thirty, and is twelve feet high to the spring of the ceiling, and seventeen feet high in the centre of the room, the ceiling for a portion of the way following the slant of the rafters, and the principal rafters and braces projecting out so as to show from below. The walls of this room are wainscotted up to the level of the window-sills—four feet from the floor—with narrow ceiling boards, and above that, together

with the ceiling, are finished off with a rough sand stucco finish.

The wood-work should all be stained, and the walls tinted some soft neutral tint—gray, or cream, or pearl color.

The windows are all sash windows, double hung for purposes of ventilation; and, in addition, there are two ventilating shafts rising from the floor through the attic, and terminating in the ventilator on the ridge of the main roof. These shafts have openings near the floor and ceiling, with arrangements for opening and shutting at will. They are made of smoothly-planed, well-jointed pine boards, and measure each sixteen inches square inside.

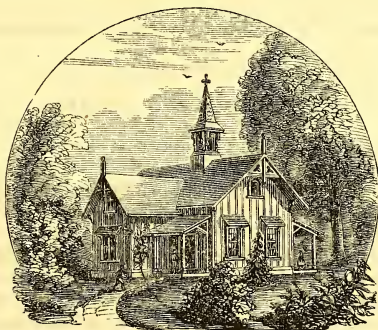


FIG. 103.—*Perspective.*

In order to keep up the circulation, and to supply cool air from outside, a shaft is introduced running along under the floor, and terminating at the platform on which, in winter, the stove, or heating-apparatus, will stand, and from this distributed into the room by numerous small holes in the riser of the platform.

We consider the simplest methods of ventilation the best, and the above will be found both simple and effective. The great desideratum is to provide means for the discharge of a certain quantity of vitiated

air, and to supply its place by the same quantity of pure air, properly warmed in winter. To make the discharge more effective, the stove-pipe may be carried up in connection with one of the shafts, rarifying the air, and making the upward current stronger, but in ordinary cases this will be hardly necessary.

There are two entrances to this house, one for boys and one for girls. Both entries are ten feet square, and are in the main building, opening directly into the school-room.

The wing on the right is a class-room, and that on the left is designed for wood and coal, and for a wash-room, if such be considered desirable.

The entries, instead of having hooks for



FIG. 104.—Ground Plan.

clothing, have each a sufficient number of boxes, or shelves divided up into compartments of about two cubic feet each, ranged along the sides, and carried up in three or four tiers. These boxes are all numbered,

and each scholar has one for his exclusive use; being provided with a duplicate number as a voucher, there is no opportunity for contention as to ownership, no losing or abusing of hats and shawls, and dinner-pail. The method has been tried, and found much preferable to the old arrangements of hooks, particularly for the smaller scholars, and those coming from a distance who bring their dinners.

The two porticos measure eight feet by ten; the windows have all broad hoods and brackets; the gables have heavy finials, and the ridge is surmounted by a large ventilator. The roofs are covered with slates, and the walls are painted two or three coats of oil paint.

The cost, at present prices of labor and materials, would be about \$2,500.

GRAPES AT AVON POINT.

BY M. H. LEWIS, SANDUSKY, OHIO.

THE map of Ohio indicates some irregularity in the south shore of Lake Erie, along the northern part of Lorain County. Here, twelve miles north of Elyria and fifteen west of Cleveland, a wide reach of land, known as Avon Point, because of its underlying shale formation, has most successfully resisted "the wear and tear of wind and tide."

In shape it resembles a trapezoid. The shorter of its parallel bases, three miles in length and distant about three miles from the main land, is the head-shore line.

Having just returned from a delightful visit at the Point with E. Boyd, Esq., whose summer residence is immediately upon the shore at the farthest point lakeward in all the region, I propose a simple statement of what has been done there in behalf of the "blessed grapes."

Three years or more since, Mr. Boyd had his attention directed to grape culture, and to this locality as especially adapted to such

an enterprise. Most of the land along Avon Point, as it abuts upon the water, forms an embankment of ten and oftentimes twenty feet in height. The soil is a heavy clay resting upon a shale formation five or six feet below. In the shale, the salts sulphuret of iron and sulphate of alumina seem to abound. The presence of iron is sometimes manifest by the red tinges in the clay, though generally the latter is of a light color. The surface is slightly rolling, and at frequent intervals furrowed out by brooklets from the interior, making their way on the shale with most of the surface water down to the lake. The aspect of the country seems to be south and south-east. Having satisfied himself that the lacustine influences, soil and lay of the land were just such as to please even the coy and fastidious Catawba, he bought largely of the farmers, who were all unsuspecting of the wealth of unassimilated wine pabulum, ground up and pushed thither in the long ago of the

glacial period and everywhere condemned as "white-bean" soil. Think of it, vineyardists of Sandusky and the Islands, hundreds of acres of the best Catawba land purchased within a few years at \$40 per acre!

He interested other parties at Detroit, Columbus, and especially A. W. Kellogg, Esq., of the well-known firm of Kiggins and Kellogg, New York city, and they have now secured in all many hundred acres in excellent locations. Ten acres of Catawbas planted three years ago are just coming into bearing. The wood is stocky and short-jointed, and the foliage is particularly remarkable for its deep green color—the leaves looking firm and healthful almost as Concord.

The vines seem to have been faithful in setting fruit plentifully, but here as in most places on the south shore, to the west of Avon at least, the clusters are imperfect from a heavy fall of rain just at blooming times, which prevented complete fertilization. His vineyard is trellised with posts and wires. By the way, Mr. Boyd has adopted a novel mode of setting posts. He has a pile-driver which four or five men can easily manage. With this he is enabled to drive posts into the earth many times as fast and much more firmly than the same working force could put them in by the ordinary method.

Mr. Boyd is eminently a practical man, not a horticulturist by profession, not much given to book-farming, though he does not by any means ignore the vast amount of valuable information in the horticultural literature of the day, but has traveled much, has visited repeatedly all the great centres of grape growing East and West, and always with his "eyes and ears wide open." Hence he has so far been quite successful. Early in the fall of 1865, he secured over 50,000 selected Catawba cutting roots and had them stored in sand in a dry cellar until spring planting. He bought at \$25 per thousand, and thereby made a clear gain, as it proved, of more

than \$1,200; for in March following the same class of roots were very scarce at \$50 per thousand. Early, too, in the fall, he subsoiled his ground, using a subsoil stirrer, to a depth of sixteen inches, and as he could not get it underdrained, he networked it with surface ditches. In the spring of 1866, after the thorough work of that most silent and indefatigable of pulverizers, Jack Frost he cross-ploughed and subsoiled again. He had the foresight also to engage a superior vigneron to superintend the whole grape interest—an americanized German of many years' experience on Kelly's Island, and he was every way wisely and fully ready for the stupendous task of planting at one time over 60 acres of vineyard.

The advancing summer proves the undertaking a complete success. Not one vine in 200 on an average is lost. The growth is healthful and vigorous. The cultivation has been admirable, scarcely a weed to be seen, and the soil, which usually bakes to stony hardness and cracks in great chinks, everywhere about the young vines seems to be mellow to a good depth. The rows are eight feet apart, straight as human hand can make them, and the vines seven feet apart in the row. This first year he can cultivate both ways. The posts and wires will run north and south. This autumn twenty or thirty more acres will be prepared in like manner—a portion to be set with roots at once, and the remainder the succeeding spring. Four or five Englishmen, adepts in their calling, are hard at work putting in three feet underdrains at twenty and twenty-five feet distances through the young vineyards of this last spring. Two inch circular tile are used and first covered with hay or straw before the drains are filled up. In fine, Mr. Boyd and his friends have made a great venture, but their well-founded confidence in their locality and soil, their *grande* confidence, as the Frenchman termed it, in American grape culture, their liberal use of capital, and intelligent employment of all the means to ensure success which recent experience has anywhere es-

tablished, make them sanguine of the final result and certainly entitle them to the sympathy and even the gratitude of all their co-workers in this broad field of industry.

I might add that they command fine sites for wine-cellars, one of which is already projected, and that they contemplate also building a tug to facilitate a heavy prospective trade with Cleveland.

Mr. Boyd's agricultural neighbors have some time since rubbed their eyes wide open and are more than slightly affected with the grape fever; for there are frequent young vineyards of five or ten acres, and the price of land has steadily advanced from \$40 per acre to \$200 and even \$225, has been paid for unincumbered clay.

AMONG THE RASPBERRIES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

WE spent a day or two during the raspberry season with a friend of ours, who has a choice collection of sorts, mostly in bearing. We found him, however, pretty much decided upon liking two or three sorts, and disposed to throw all others aside. Nevertheless, we went quietly to work, tasting, and examining, and comparing; visited a dozen or more places, and got their opinions. Of the white or yellow sorts, we found nothing equal to Brinckle's Orange, the fruit

yet good canes were then bearing fine fruit—not equal, of course, to those under a higher state of cultivation, but yet such as to show that the variety could bear grief.

The next best of the whites that we met with was Colonel Wilder; not as high fla-

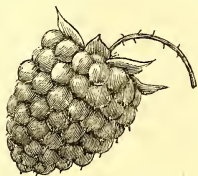


FIG. 105.—*Brinckle's Orange*.

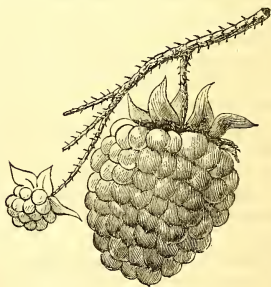


FIG. 106.—*Col. Wilder*.

of which was abundant upon the canes, of large size, rather long, a rich golden yellow when fully ripe, and of the richest flavor. The canes of this in our friend's grounds are regularly laid down, and covered on approach of winter. His soil is of a deep, rich, sandy loam, and thoroughly worked. We examined this sort on clay grounds, where we found it doing well; and here, as well as in a garden of light sandy soil, it had received no protection the past winter, and but poor cultivation this Spring; and

vored as Orange, a lighter color, but if anything the canes a little more hardy. One cultivator of it declared that he could get a good crop of it yearly, without any covering or winter protection. We doubt it.

Among the red sorts, of old kinds, we found the Hornet, literally loaded with fruit; of a dark, rich red; large size; fine flavor; pretty firm; more so than most of the red; trusses with fifty to seventy-five berries; a little later in maturing than some other sorts, but universally regarded as

among the, or one of the best. Most of its growers, we also found, had been in the practice of leaving it exposed to the winter;

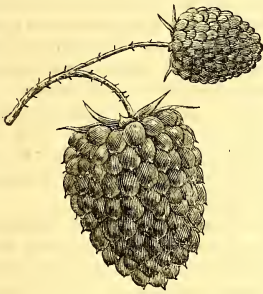


FIG. 107.—*Hornet*.

but where they had given it a little protection, we think the time and labor were more than twice repaid in the crop.

FASTOLFF we did not find as favorably spoken of as of olden time. One cultivator, however, regarded it yet among his best. Canes strong and stocky; partially hardy. Fruit large, abundant, tolerably firm; not sufficiently so for long carriage, however.

FRANCONIA, like the last named, we found with only a few friends, and they among the amateurs, where large and fine fruit, without much to regard to cost, was a point to gain.

KIRTLAND, for so we must name the sort now grown under this name, although the gentleman whose name it bears lays no

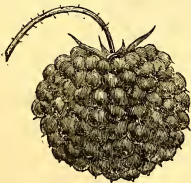


FIG. 108.—*Kirtland*.

claim to having grown it. The canes are perfectly hardy; a light yellow; free from spines. The fruit nearly or quite round;

bright red; pretty firm; large grains; fruit sets abundantly, and matures well; it is not of the highest flavor nor the largest size, but, with many who have grown it in quantity, proves very profitable.

We learn, also, that the little original patch, from which Doctor Kirtland once gave away plants, now propagated under his name, yet continues in fruitful bearing, and has never had a hoe or manure applied to it.

THE ALLEN, or what is known by the market gardeners about Cleveland, Ohio, as the **Red Antwerp**, we found in many hands; and everywhere that they had eradicated the barren plants, it proved a profitable sort. One grower from a little piece of three rows, four rods long each, gathered and sold this year to the amount of over forty-five dollars. Where the **Hornet** or **Kirtland** can be got, however, we think the **Allen** will lose cast.

RED ANTWERP.—This old sort, where it had been protected last winter, we found giving fine crops of a delicious flavored fruit. It is a capital berry; but if those of

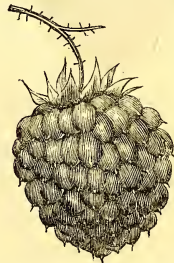


FIG. 109.—*Red Antwerp*.

hardier canes can be had, our people will not take the trouble to lay down any particular sort.

KNEVITT'S GIANT.—In only one place did we find this sort, but here the owner thought very highly of it. The canes are more hardy than any other foreign sort, except **Hornet**, while the fruit is firm, and of

excellent flavor. We think growers should pay more attention to this variety.

OF VICE-PRESIDENT FRENCH, CUSHING, and others of the Brinckle origin, we found the two we have first named and figured, to have so much surpassed the others in good qualities, that they were only grown by a few amateurs.

Of new sorts, the Duhring and Clark, we have not seen in fruit. Both are represented as extra fine; another year, we hope to see their fruit.

PHILADELPHIA is very much like Kirtland, and our description would answer for both.

NAOMI we saw in fruit in two or three places, bearing abundantly: a large, fine, well-flavored fruit, and the canes, thus far,

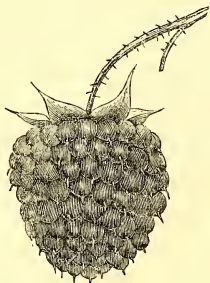


FIG. 110.—*Naomi*.

having proved perfectly hardy. Should it again prove hardy, as heretofore, it will take a first rank among raspberries for general cultivation.

MRS. WOOD is another new sort that we saw. It is not yet offered for sale, nor has it been fully described. Its habit of growth is between that of the Antwerp class and the Black Cap, and is apparently a hybrid. The wood is of a dark bluish shade; canes very strong, with many lateral branches, on which the fruit sets abundantly.

The fruit is of a dark purplish red; nearly globular; double the size of Black Cap; firm, and with a fine high flavor. We hope to have a full description and illustration of it for a future number.

CATAWISSA—This old double-bearing sort we have found to have stood last winter more than usually well. In some places it was the only sort this spring that retained perfect live canes. In good grounds it gives an early crop, and afterward a second crop; but to be most profitable, we are told, the canes should all be mowed off in the spring, and thus make it an autumn-bearing variety, rather than twice bearing.

The old Black Cap, as a general thing, has been superseded by the Doolittle Black Cap; and this, where the soil was deep and rich, gave enormous and profitable crops.—For many sections, and for deep, loamy, rich soils, this is undoubtedly one of the best hardy kinds in cultivation.

Of other old sorts, such as Rivers' Monthly, Ohio Everbearing, &c., &c., we learned nothing new, most growers confining themselves to well-known kinds; while at the same time they are testing on a small scale the new varieties.

PLAN FOR LAYING OUT A TEN-ACRE LOT FOR SUBURBAN OCCUPATION.

BY E. FERRAND, DETROIT.

THIS place has two main entrances with well-shaded drives. The lodges for the gardeners command the gates. There is an immediate access from one of those cottages to the hot beds and garden which is

exposed to the full sun. The sight of this vegetable garden is entirely hidden by a belt of ornamental planting. Around the green-house and graperies are flower beds and stumps, with a nice walk around.

Rhododendrons and Kalmias can be planted on the northern and other shaded sides of the dwelling. The access is very easy to the stables and other out-buildings, with two yards and a direct access to the street. The river and lake occupy about $\frac{1}{2}$ acre. There are two islands, one of which is connected to the garden by a small bridge.

The space O can be cultivated into fruits of any kind or put in grass.

It has been my aim to make this a handsome place with but few roads. In fact, a simple glance at the drawing will tell more about the disposition of this place than any explanation.

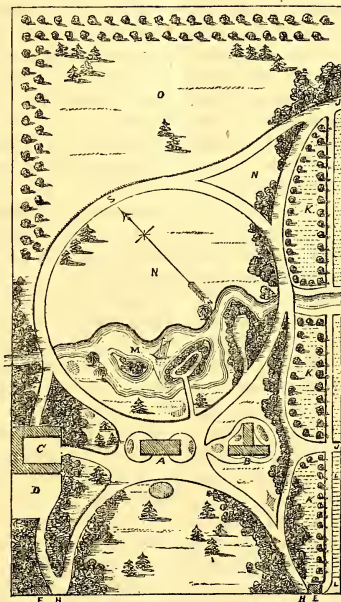


FIG. 111.—Plan.

REFERENCES.

A—Dwelling.
B—Greenhouses and grape-ies.
C—Stable, barn and interior yard.
D—Yard.
E and F—Gardeners' houses.
H—Principal entrances.

J—Entrances.
K—Vegetable garden.
L—Hot beds.
M—River, lake and islands.
N—Meadow.
O—Fields, with two rows of apple-trees.

THE DELPHINIUMS.

BY F. PARKMAN, JAMAICA PLAINS, MASS.

It is now a number of years since general attention was drawn to this fine family of hardy perennials, by the introduction of *Delphinium Formosum*. Other beautiful species and varieties had already been known, but *D. Formosum* was at once so easy of culture, so large, and so vivid in color, that it made an impression never before equalled by any of its kindred. A variety closely related to it, *D. Hendersoni*, had been introduced before it; but, unlike *Formosum*, it does not bear seed, and must be increased by the tedious process of dividing the root. For this reason, though more delicate in color, and fully equal in every point of beauty, it did not become generally known.

D. Formosum not only bears seed freely, but the seed "comes true," the offspring closely resembling the parent. Now and then one observes some diversity. Thus: in some cases the eye is deeply shaded, and in others it is pure white. An English nurseryman, by carefully selecting and isolating his seedlings through a succession of seasons, has succeeded in "fixing" the white-eyed variety, so that seed from it will commonly produce the same again. He has given his new variety, which is merely an improved *formosum*, the name of *Delphinium bicolor Grandiflorum*. We have not yet tested it sufficiently to satisfy ourselves that it deserves this formidable christening. The original *D. formosum* is an improved variety of a Siberian species, *D. cheilanthum*, which is also the ancestor of *D. Hendersoni* and *D. micans*, which very much resemble each other.

Within a year or two, another variety has been introduced, very distinct, and, without doubt, an acquisition. It has been named *Delphinium formosum celestinum*, and is, in fact, *formosum* with a different shade of color. While the original variety is of a deep metallic blue, the one in question is of a delicate sky blue, and it rarely fails to

come true from seed. The flowers of both are very large. When grown in a rich loam, mixed with peat, of which they are very fond, we have seen them nearly two inches in width. These were flowers of young seedlings; those of the old plants are never so large.

Delphinium formosum has one serious defect. This is a kind of blight which attacks the flowers, begins by blotching them with blackish purple, and often ends by crumpling the whole flower-spike into an unsightly knot.

Delphinium sinense (the Chinese larkspur) and its varieties form another group quite distinct from the above. Its growth is more slender, its leaves finely cut, approaching the annual larkspurs; and the whole plant, though less robust, is more delicate and graceful. It grows two feet or more in height, but there are dwarf varieties which sometimes do not exceed a foot. In color, it varies from an intense metallic blue to white. There are bright sky-blue varieties whose tints are almost unrivalled in this way. There are also varieties of a purplish slate color. Some are double and semi-double. The bloom is very profuse, and lasts a long time. Where masses of blue are wanted in the garden, nothing can better answer the purpose. It will bloom the first year from seed, as will also *D. formosum*, and it is entirely free from the defect to which the latter is subject. After two or three years it commonly dies out, unless the root is divided; but it is perfectly hardy, and like *formosum*, defies the severest winter. The ancestors of both were natives of Siberia, Tartary, and Northern China. *D. Grandiflorum* is a kindred species, also a native of Siberia, and scarcely distinguishable from *sinense*.

We come now to a third section of the genus *Delphinium*—that of the erect robust species, of which the old Bee Larkspur may be taken as the type. This section includes

many species more or less distinct, and varieties past numbering. As most of the species hybridize very readily, and as many that are called species are not to be distinguished the one from the other, any attempt at defining them all would be a failure, but the general characteristics of the entire section are very distinct. To our thinking, the position of the Delphinium family in the world of floriculture must mainly depend on this portion of it. In hardiness, in permanency, and in freedom from disease, this section is unequalled. Its tall, erect spikes of bloom are often of the most perfect symmetry, and the flowers may be developed into the greatest beauty, both of form and color. The choice varieties of it are admirable for massing on the lawn, or planting in the middle and back of the border.

Its varieties of color are very great.—The old Bee Larkspur is of a deep blue, with a black eye, covered with short hairs, and looking like a bee nestled in the centre of the flower. It is a tall, rank-growing plant, of little value in itself, but capable of great improvement by hybridization and selection of seedlings. Next, we have a deep blue variety, with the eye pure white; then a light blue, with an eye of vivid black; then a light blue with a white eye, and a light blue with a grey eye. We have seen these last quite as large as *D. formosum*, and far surpassing it in the symmetry of their flower-spikes. Among double varieties, there are some of a deep metallic blue, others of a pure sky-blue, and others of a sky-blue, tinged with pearl and lilac. Occasionally, the central petals are striped with red and white, and they are frequently edged with a black line, which, to our thinking, is not an improvement. Many of the double varieties are good seed-bearers.

As we have raised many thousands of seedling Delphiniums within the last few years, it may be of some interest to note here some of the "sports" to which they are liable. We have frequently known a

Delphinium, with an eye white and perfectly smooth, to produce a seedling with the eye black and hairy, like the old Bee Larkspur; and the offspring of this again sometimes sport back to the original white. Often a deep blue flower produces a light blue offspring, and *vice versa*, though the majority of seedlings approach the color of the parent. Some double flowers produce a considerable proportion of double offspring; while others, equally double, result almost exclusively in single flowers. We have frequently known the offspring of one plant to differ more from each other than some of those which are described by botanists as distinct species. We have now in bloom a curious example of a sport. It was raised from the seed of a double light-blue variety. The flowers are double, smaller than in the parent, and nearly pure white—the only instance we have ever seen of that color in this section of the Delphiniums. The variety bears seed, though not very freely, and we hope, ultimately, to develop something of value from it.

Now as to hybridizing. The varieties of the Bee Larkspur section hybridize freely with the section of *formosum*, producing flowers combining the characteristics of the parents, more upright and robust in growth than *formosum*; nearly as large; often quite as vivid in color; and, as far as we have observed, quite free from blight. We have never yet succeeded in hybridizing the Bee Larkspur with *sinense*; but where art has failed Nature seems to have done the work, for we have several times observed in beds of seedlings plants which, in their habit and bloom, show strong indications of being hybrids of these species. We have several of them now in bloom. In habit of growth, they approach the Bee Larkspurs, but the flower closely resembles the Chinese (*sinense*). They never bear seed, which affords another presumption that they are hybrids.

In this connection, we will mention a disaster which befell us two winters ago.—From a great number of seedlings, we had

selected about thirty which seemed worthy of names; and as the ground where they stood was to be dug up in the autumn, we placed them all in a frame for the winter. The precaution proved their ruin, for the mice got in, and devoured all but six. We are now at work to repair the mischief, and

have many hundreds of seedlings which will soon be in flower. The family of the Delphiniums seems capable of a development greater than it has yet received, and we look with confidence for good results.

We have not yet done with this subject, and shall have more to say hereafter.

GRAPE MILDEW *VERSUS* THE ESSENTIAL OILS.

BY VITICOLA.

IN the *HORTICULTURIST* for June 1864, "*Horticola*" publishes several extracts from a letter of M. Neubert, a celebrated vine grower of Saxony, whom *Horticola* endorses as a "scientific chemist." Neubert advises the use of a solution or emulsion of essential oils (lavender and rosemary) in water impregnated with salt and saltpetre, as a remedy, or rather as a prophylactic for mildew on the grape vine. Neubert being a practical man, and his directions being founded, on his own experience, his recommendations are worthy of a trial, and should not be lightly treated unless the objections to them are obvious and well founded.

In a recent work upon Grape Culture, by W. C. Strong, these directions of M. Neubert are quoted with the following remarks: "He gives no reason for his solution, and we are at a loss to comprehend the benefits of rosemary and lavender. The salt and saltpetre are in such homeopathic quantities, that we cannot understand how so practical and skilful a cultivator as M. Neubert can attach so much value to it. The early and frequent dustings with sulphur must be the secret of his success.

We account for the efficiency of sulphur from the known effects of sulphurous acid gas upon vegetable and animal life. When diluted with a large proportion of atmospheric air, it is still so acrid as to produce a sense of suffocation and violent coughing. Every one has experienced the suffocating odor of friction matches. Flour of sulphur

is insoluble in water, and decomposes slowly by combining with oxygen, forming sulphurous acid in the proportion of one part sulphur and two parts oxygen."

Upon reading the passage the question promptly occurred to me: Are these objections to M. Neubert's recipe well grounded? If so, there is no use in going to the expense and trouble of trying it. What light does chemistry and vegetable physiology throw upon the subject?

It is unnecessary to remind every reader of horticultural literature of the widely different circumstances under which different classes of plants flourish. Seaweeds grow in brine of such a strength as would prove instantly fatal to land plants; and even in strong solutions of the most acrid chemical salts (sulphate of copper) certain species have been known to thrive.

Now it has long been known that amidst these peculiarities of vegetable growth one of the most marked is the fatal effect of essential oils upon most plants of a fungoid character. Hence the ink manufacturer puts a few cloves in his ink to keep off mould while aromatic seeds of all kinds are not subject to mould and their vicinity prevents moulding in others with which they are packed.

In an elaborate article on this subject in the *Edinburg Philosophical Journal*, vol. 8, page 34, Dr. MacCulloch remarks:—"It is a remarkable confirmation of this circumstance, that Russian leather, which is perfumed with the tar of the birch tree,

is not subject to mouldiness, as must be known to all who possess books thus bound. They even prevent it from taking place in those books bound in calf near which they happen to lie.

This fact is particularly well known to Russian merchants, as they suffer bales of this article to lie in the London docks in the most careless manner, for a great length of time, knowing well that they can sustain no injury of this nature from dampness, whereas common curried leather requires to be opened cleaned and ventilated. Collectors of books will not be sorry to learn, that a few drops of any perfumed oil will ensure their libraries from this pest."

These facts are well known and they seem to me to offer a full explanation of the beneficial effects of essential oils in warding off attacks of mildew.

Salt and saltpetre are equally well known as powerful antiseptics. At first sight I should feel inclined to use stronger solutions 1 oz. of salt in 400 of water,

but I would first try the proportions recommended by M. Neubert. His directions are probably founded on experiment.

While upon this subject allow me to say a few words in regard to the explanation given above of the action of sulphur upon mildew. Sulphur when exposed to the air at *ordinary temperatures* does not combine with oxygen and form sulphurous acid gas. This is a fact known to all chemists. It is universally regarded by chemists as an *element* and we have no evidence that it ever "decomposes." But it volatilizes slowly at ordinary temperatures and the higher the temperature the faster does it sublime. It is also soluble to some extent in oils and wax, and may possibly form a combination with some portions of the leaf. It probably acts as a specific poison to the fungus, and its properties, as noted above, lead us to appreciate the directions—apply it only on *dry* *hot* days.

EARLY FALL TRANSPLANTING.

It has long been a commonly received opinion that all deciduous trees should have one good hard frost exposure, before being dug and transplanted in the fall. That such frost assists in hastening maturity of the tree, we acknowledge; but that it is necessary to await frost and the falling of the foliage therefrom, before transplanting, we do *not* believe. The leaves have their part to perform, grow their growth, perform their appointed duty, and gradually fall to the ground. This falling of the leaves takes place much earlier in the season with some varieties of trees than with others. The cultivated sweet cherry commencing to drop more or less of its leaves in July, and mature nearly all of them early in September, while the Mahaleb does not mature much of its foliage until in August, and rarely drops any of it until the middle

of September. The gooseberry and currant drop nearly all the foliage on old wood in August, and much of that on new wood early in September. The pear and apple rarely make any additional extent of growth after the middle of August, and most of their foliage is mature and ready to drop by the twentieth of September. The ash, birch, and many other forest trees have their main leaves all mature by the above time.

Looking at this we some fifteen years ago commenced planting out one or more of a sort of tree and plant early in the season, and continued our experiments until within the past two years, we have planted our cherries, pears and apples, as early as the 10th of September, and our currants and gooseberries the first week of that month, and have rarely lost a tree or

plant. We dig and plant in the usual manner, with or without water, as may be, but we make our shortening in pruning, either *before* the plant is dug, or as *soon as it is out of the ground*. The pruning, of course, takes off all the young and immature wood, and the ground being warm, the roots form anew without delay. One tree we examined last fall had made new roots over an inch long in two weeks from the time of planting. Lindley's Theory of Horticulture, together with general practice, make it much

safest to transplant after the leaves have fallen in the ordinary maturity and extent of season, and undoubtedly such is the correct theory and practice, when trees have to be taken from a nursery, packed and shipped a distance; but where they can be removed from a part of one's own grounds or obtained from a nursery within a few miles, we believe the early transplanting to give the most vigorous growth the following year.

NOTES ON RASPBERRIES AND CURRANTS.

BY CHAS. DOWNING, NEWBURGH.

MESSRS. EDITORS:—In the June number of the *HORTICULTURIST*, you requested notes on raspberries, &c. On examining my collection numbering over forty varieties, I find among the new ones that Clarke, Hornet, Philadelphia, Northumberland, Fillbasket and Belle de Palluau are good and promising sorts, and the latter, I think, will prove a good market variety, the fruit being large, firm and of excellent flavor, and the plant vigorous and productive. The Clarke is a juicy, sweet berry; plant vigorous, very productive and one of the best for family use, but, I fear, too soft for market purposes. The Philadelphia is an American variety originated near that city, and celebrated in that locality for its hardiness and productiveness, and seems to be well suited to the light soils of New Jersey, where the finer European kinds generally fail—on Wm. Parry's grounds at Cinnaminson, and Edmund Morris' at Burlington, which I visited in picking season; it proved all that had been claimed for it as a profitable market sort. The berry is not as large nor as high-flavored as the European varieties. How it will succeed in other localities has yet to be tested. Among the best for family use are Brinckle's Orange, Franconia, Clarke,

Belle de Palluau, Vice-President French and Hudson River Antwerp. For market purposes in this locality and some miles north and south of here the Hudson River Antwerp is the favorite sort, although I think Franconia, and perhaps Belle de Palluau, will prove on further trial equally as good.

There have been several new ones introduced of the Black Cap family, but they are so similar to the common and Doolittle, as not to be worth a separate notice. There is one received from Samuel Miller, of Avon, Pa., which he calls Surprise, which is a little larger, more juicy, more conic in form, and has more bloom on it. This, however, is from one year's experience, and may not be correct. There is also a new variety received from Joseph Sinton, of Angola, Erie county, New York, which is like the others in many respects except that it is entirely thornless. This promises to be an acquisition. It is claimed to be earlier and more productive; but having only fruited it the present season and from a plant received the past spring, I am not able to decide correctly. Of the Everbearing varieties, the Ohio Everbearing and Belle de Fontenay have proved the best with me.

CURRANTS.

I find this class of fruits in much confusion and incorrect. For several years I have obtained from Europe and this country and from various persons all the good kinds of any reputation; have made a pretty thorough examination of them the two past seasons, and find but few distinct enough to retain as really good.

Among the white ones, White Dutch and White Grape are the best. Transparent white is said to be a seedling, and no doubt is, but is so similar to White Grape in growth, quality and productiveness, that it is not worth while to make a new sort of it.

White Provence is distinct, many of the leaves being edged with white, it is the most vigorous of the white sorts. Fruit large, but not as productive as the two above-named ones. Attractor is distinct in foliage, being deeply cut or toothed, but the fruit is not equal in quality to White Grape. White Clinton is White Dutch. Imperial Yellow and Imperial White are White Grape.

Red Grape and Wilmot's Red Grape, if distinct from May's Victoria, I am not able to distinguish them. Fertile d'Anger's, Macrocarpa and Imperial Red are the same as *Versaillaise* or Cherry, and these two last are so much alike that it is often difficult to distinguish one from the other.

The *Versaillaise* is said to be a seedling of the Cherry, and often has longer bunches, sometimes not. We sometimes think it less acid, but the difference is slight. Both are large and attractive kinds, and command double the price in market of other sorts; but are more acid and watery, and not near as rich as Red Dutch and many other red varieties. Red Provence and Gondoin Red, as I received them, are alike. They are the most vigorous of all the currants, with pale, reddish young branches. The fruit is small, acid, and worthless.

Red Dutch, May's Victoria, La Hative, Knights Large Red and *Versaillaise* are among the best of the red ones. Knights Early Red, Knights Sweet Red, Long-Bunched Red and Short-Bunched Red, are of the Red Dutch family, but no better. La Fertile is a vigorous grower, productive, large size, but not equal to some others in flavor.

Of the black varieties, Black English and Black Naples are the best.

In making the above statements, I wish to say that I have no private interests to serve, and have no plants for sale, but give it as my experience of the kinds as received from various sources and at several different times from the same persons; and if incorrect, I hope others of more extended experience will correct me.

NOTES ON THE JULY NUMBER.

TREES IN ASSEMBLAGES.—An admirably conceived and well written article. The writer, however, has overlooked one or two items. First: he says, "Columbus, when he landed, found no lawns or parks." True, he did not; and yet, at that time, in our western territories, now Wisconsin, &c., were, and yet are, hundreds of native lawns, dotted with their island groves of trees; and again, extensive parks, with here and there grand old oaks, amid which the timid deer is occasionally to be seen.—Again, it is not always grouping of trees

SEPTEMBER, 1866.

that bring out the best results. Nature does her work most admirably, it is acknowledged, but she also does it with her tree planting according to the surrounding of her earth formations. Thus, her masses of scrawny, yet bold and picturesque trees, on her hill sides and rocky dells, are not found on her level, sandy, or prairie plains; and he who studies Nature to copy or improve, by giving her a hint, has a wide field for learning, and may study to good advantage. In this improving on Nature by hints, few are successful. The grouping of trees like

the Norway Larch, Lombardy Poplar, &c., of a pointed or spiral character, would not be Nature on a sandy level, where the scenery for miles was one continuation of the same character; and more and more would it be incongruous if the style of the buildings were of the Tuscan or Italian orders; but, as I said, this article is well written, and I shall be glad to see the writer in print again.

DESIGNS IN RURAL ARCHITECTURE.—I like this design for the section of country in which it is constructed, but he who copies may doubt its adaptation to all sections. The bold scenery of the Hudson suits well with points and gables.

PLAN FOR LAYING-OUT A THREE-ACRE LOT.—Decidedly a good plan. The walks are gently curved, not crooked; and the whole plan, if carried out and cared for, would give satisfaction to the owner.

HEBE PEAR.—Will Mr. Sumner tell us where this pear originated, and what is the habit of the tree?

THE CANKER WORM.—Colonel Dewey shall have a credit mark for this expose of our ignorance of the habits and destructive agents of the canker worm. As he says, the worm, while in the chrysalid state, is readily devoured by poultry; to which I will also add, poultry will destroy it when in the form of Fig. 89.

Years ago, I knew an orchard in New Haven County kept perfectly clear of canker worm by means of poultry; while, in the same season, the grand old elms of New Haven were almost leafless from its ravages.

HINTS ON TRANSPLANTING EVERGREENS.—“Never let the roots see the sun or feel the wind” is truly the maxim of government to the planter of evergreens. I can not, however, after nearly thirty years of practice, and with hundreds of thousands of plants, concede the recommendation to “plant from May to August.” My experience is, that, with *all* evergreens, the *very best* time is just as they are pushing their buds in Spring. With Norway, Scotch, and Austrian Pines, September is better

than July or August. In other words, if they have well ripened the season's growth they may be safely removed. American Arbor Vitæ and Red Cedar do not do well, removed at any other season than Spring.

E. W. BULL ON GRAPE-CULTURE.—Well, I am disposed to swallow almost anything in the way of a large story about the profits of grapes, but I must confess I give interested parties a little latitude when they talk of their own originating or procedure. This producing seven tons of grapes to the acre should first be shown by the acre, not by computing the product of one vine in a garden, and calculating the number to the acre. The experience of the last winter on the vineyards in Northern Ohio, I think, is a hint to growers that Nature must not be overtasked, many of the vineyards there, that last year produced very heavy crops, being this year almost dead, many vines entirely killed; while, as a rule, the vines that last year bore no fruit are this year growing a good crop. Is not Mr. Merrick too fast when he says the Iona “needs the highest possible cultivation?” Mr. Bull's item of compost is not regarded as a useful item at the West; or, if used, it would be considered as a “potting process,” not in the line of “grape-growing made easy.” Without desiring to detract from the vigor, &c., of the Concord, too well known to doubt, I only say that I have seen the Iona planted this year in strong, stiff clay, and at this time (July) show a growth fully equal to the Concord in similar positions. Do not understand by this that I claim the Iona as vigorous as Concord, but that I speak of it to show Mr. Merrick that I think him too fast in placing it as a variety needing to be petted. Mr. Bull's method of planting is too expensive for the western vineyardist, however well it may answer for New England; and his advice to save all the roots, and not to shorten them in, does not correspond with success in physiological practice.

THE ORIGINAL RED BEECH TREE.—Thanks, thanks, Horticola, for this account.

From the history of its seed producing red beeches when taken from inside branches, and green beeches when gathered from the outside, may not our seedling fruit-tree growers learn a lesson, and where it is desirable to perpetuate the leading characters of a kind, select their fruits accordingly.

SIR THOMAS BROWNE'S GARDEN OF CYRUS.—Occasionally, I like to read Sir Thomas, but, as a rule, two or three pages suffice. Perhaps, few authors have written better; but, then, we more require when reading the want of that "light that makes some things seen."

THE CAMPANULA.—Who does not know the Campanula, or, as the writer says, the Canterbury Bell? It is found in every flower-garden from Maine to California.—But the beauty of the Campanulas, to my

mind, is in the perennials. I well remember a plant of *Campanula Pyramidalis*, some years since, at a State exhibition. It was about five feet high, in full bloom, and constantly attracted a crowd of wondrous gazers, whose knowledge of the Campanula had, up to that time, been merged in the old single blue biennial.

INSIDE GRAPE BORDERS.—If inside borders will not answer on a concrete bottom, why use the concrete? Take the soil, good of course; give drainage as for out of doors, and see the result.

MATERIALS FOR GREEN-HOUSES.—This author is right in advocating wood.

FORCING STRAWBERRIES.—A practical detail, to be read by all gardeners.

REUBEN.

MY EXPERIENCE WITH GOOSEBERRIES.

BY TYRUS.

I HAVE been paying some little attention to the cultivation of the gooseberry, and from the results, I am a little surprised that their cultivation, as a market crop, is not more extensive.

The English or imported varieties, we know, do not succeed well, on account of liability to mildew; but our American sorts, such as Houghton, Cluster, &c., I have found to grow and bear most satisfactorily.

My soil is a poor clay, some of it quite on the brick-bat order, and unavailable for growing corn or potatoes; and yet the gooseberry grows vigorously on it, and perfects crops of good-sized berries.

A friend of mine has tried growing them on a good sandy loam, but quite unsuccessfully; and yet I find single bushes in almost every garden, evidencing their almost universal adaptability to all soils.

I plant my bushes early in the fall, having first plowed my ground as deep as possible with a heavy team and plow. I open

out furrows four feet apart, and cross furrows at same distance; then plant, so that my bushes are four by four feet each way; leave the ground level until near the close of the season, or just before freezing up of winter, when I turn a furrow up toward each side of the plants, leaving them well protected from heaving of frost, and providing for whatever surface-water there may be at a distance from the plant.

I have gathered this year four quarts from a bush, and have sold at four and five dollars a bushel.

The varieties I am mostly growing are Houghton's Seedling, Cluster, Mountain Seedling, and Downing, and I appreciate their value in the order in which I have named them, and for the following reasons, which I make part of text descriptive:

HOUGHTON'S SEEDLING.—Bush grows vigorously, a little too slender to be just right, because when loaded with fruit it lies partly on the ground until the bushes get age. Sets its fruit profusely, and holds it

all until ripe. The fruit is oval; rather small; smooth skin, of pale, dull reddish brown, with faint green lines; tender and juicy, but not very high flavored; shows not a sign of mildew either when grown in the shade, in the sun, in wet or dry ground.

CLUSTER.—This is a little larger than Houghton, but does not set quite as abundantly. The bush is of a rather more stocky habit in growth, and more upright; a little richer and better flavored fruit, and may yet prove with me more desirable than Houghton.

MOUNTAIN SEEDLING.—The plant is a very strong grower, rather straggling and slender in its wood; too much so, for as yet it has had to have support to keep the fruit off the ground. The fruit is nearly one-half, say fully one-third, larger than Houghton; long oval; dark brownish red, with long peduncle, attaching the fruit to the wood at such distance as to make picking an easy

matter; skin smooth; flesh much richer than either the above-named. My bushes of this sort are yet young. Should they grow strong enough to head back well, and set their fruit abundantly, it will prove a valuable sort because of its size.

DOWNING.—The bush is a more compact and upright stiff grower than either of the others. The fruit sets pretty well; is nearly round; pale whitish green, with the rib veins distinct. Skin smooth, thick. Flesh juicy; better than the first two; not as good as the last; and, unfortunately, with me it burns badly in the sun, so that one-half or more of the berries are valueless.—As a variety for early gathering it may be the most valuable, but for late marketing not as good as the others.

At another time, if you wish, I will write my experience with currants for marketing purposes.

STRAWBERRY AND RASPBERRY NOTES.

BY ISAAC HICKS.

THE crops of strawberries on Long Island, where they were suitably protected last winter, have been good. Mulching, we believe, pays.

One grower, who has three acres mostly Wilson, on the southern slope of a hill, has marketed over 10,000 quarts. They were well tilled, and kept in hills, and mulched, rows about two feet apart. Another grower had about six acres in bearing, mostly Russell's Prolific, every tenth row French, and allowed to run together; product near 8,000 quarts. We think that the French is too soft for market. The Garibaldi is larger, more productive, and carries better—a very important consideration to the grower. The *Agriculturist*, so far as we have heard, have all been allowed to increase as much as possible to obtain plants, and we think it has not had a fair trial. It should be grown in hills, under high culti-

vation, to bring out its good qualities. We find it valuable as a late berry; keeps a long time after it is picked; of high flavor; and in hills very productive.

Brooklyn Scarlet is beautiful; high flavor; an excellent amateur berry.

General Scott is very productive; large; not best flavor; too soft for market.

Russell is very prolific, and a good profitable berry.

Cutter is very productive; too soft for market, but excellent for home use.

Lenning's White, *very* poor bearer.

Lady Finger, or Scott's, good, but poor bearer.

Austin, too poor flavor for cultivation.

Wilson, probably the best yet for market.

Bartlett, or Boston Pine, fine, but poor bearer; the Brooklyn Scarlet resembles it in flavor, and is much better in every respect.

Triomphe de Gand, fine flavor, but generally few in number; if kept in hills, much better.

Of raspberries, we have tried a dozen or more kinds, and have abandoned all but the Brinckle's Orange, Doolittle Black Cap, and Philadelphia.

Brinckle's Orange, and all others of that class, require too much care in covering, and are not near as productive as the other two.

Doolittle is early, large, and productive but a rampant grower, and is quite thorny.

The Philadelphia raspberry has borne twice, and, for our soil, it is the best we have yet met with. It is very productive, much more so than Antwerp, Orange, Franconia, Fastolf, &c., with us. It resembles the Purple Cane in its taste, and is double the size, just as hardy, and throws up suckers from its roots like the Antwerps.

We have been in search of a good, hardy, productive raspberry, suitable for our light soil, and we have found it in the Philadelphia.

North Hempstead, L. I.

GLEANINGS.—*Continued.*

VI.

It is a strange thing how little, in general, people know about the sky. It is the part of the creation for which nature has done more for the sake of pleasing man, more for the sole and evident purpose of talking to him and teaching him, than in any other of her works, and it is just the part in which we least attend to her. There are not many of her dim works in which some more material or essential purpose than the mere pleasing of man is not answered by every part of their organization; instead of this, there is not a moment of any day of our lives when Nature is not producing scene after scene, picture after picture, glory after glory; and working still upon such exquisite and constant principles of the most perfect beauty, that it is quite certain it is all done for us, and intended for our profit, not pleasure. And every man, wherever placed, however far from other sources of interest or beauty, has this doing for him constantly. The noblest scenes of the earth can be seen and known but by few; it is not intended that man should live always in the midst of them; he injures them by his presence; he ceases to feel them if he be always with them; but the sky is for all; bright as it is, it is not

“Too bright nor good
For human nature's daily food.”

It is fitted in all its functions for the perpetual comfort and exalting of the heart—for soothing it and purifying it of its dross and dust. Sometimes gentle, sometimes capricious, sometimes awful, never the same for two moments together, almost human in its passions, almost spiritual in its tenderness, almost divine in its affinity; its appeal to what is immortal in us is as distinct as its ministry of chastisement or of blessing to what is moral is essential. And yet we never attend to it, we never make it a subject of thought, but as it has to do with our animal sensations; we look upon all which bears witness to the intention of the Supreme, that we are to receive more from the covering vault than the light and the dew which we share with the weed and the worm, only as the succession of meaningless and motionless accidents, too common and too vain to be worthy of a moment of watchfulness, or a glance of admiration. If in our moments of utter idleness and insipidity we turn to the sky as a last resource, which of its phenomena do we speak of? One says it has been wet; and another it has been windy; and another it has been warm. Who, among the whole chattering crowd, can tell me of the forms and the precipices of the chain of tall white mountains that girded the horizon at noon yesterday? Who saw the narrow sunbeam that came out of the south, and smote upon

their summits until they melted and mouldered away in a mist of blue rain? Or the dance of the dead clouds when the sunlight left them last night, and the west wind blew them before it like withered leaves? All has passed unregretted, as unseen; or if the apathy be ever shaken off, even for an instant, it is only by what is gross, or what is extraordinary; and yet it is not in the broad and fierce manifestations of the elemental energies, not in the crash of the hail, nor the drift of the whirlwind, that the highest characters of the sublime are developed. God is not in the earthquake, nor in the fire, but in the still small voice. They are but the blunt and the low faculties of his nature, which can only be addressed through lampblack and lightning. It is in quiet and subdued passages of unobtrusive majesty, the deep, and the calm, and the perpetual; that which must be sought ere it can be seen, and loved ere it is understood; things which the angels work out for us daily, and yet vary eternally, which are never wanting, and never repeated; which are to be found always, yet each found but once; it is through these that her lessons of devotion are chiefly taught, and the blessings of beauty given.

VII.

It is well known that in Holland the tulip became, about the middle of the seventeenth century, the object of a trade unparalleled in the history of commercial speculation. From 1634 to 1637, all classes in all the great cities of Holland, became infected with the tulipomania. A single root of a particular species, called the Viceroy, was exchanged, in the true Dutch taste, for the following articles:—Two lasts of wheat, four of rye, four fat oxen, three fat swine, twelve fat sheep, two hogsheds of wine, four tuns of beer, two tuns of butter, one thousand pounds weight of cheese, a complete bed, a suit of clothes, and a silver beaker, the whole being worth 2,500 florins.

These tulips were afterwards sold according to the weight of the roots. Four hundred perits, something less than a grain, of

the bulb called Admiral Leifken, cost 4,400 florins; 446 perits of Admiral Vonder Eyk, 1,620 florins; 106 perits of Schilder, 1,615 florins; 200 perits of Semper Augustus, 5,500 florins; 410 perits of the Viceroy, 3,000 florins, &c. A bulb of the species called Semper Augustus, has been often sold for 2,000 florins; and it once happened that there were only two bulbs in existence, the one at Amsterdam, the other at Haarlem. One of these sold for 4,600 florins, together with a new carriage, two grey horses, and complete harness. On another occasion, a bulb was sold for twelve acres of land. So great was the rage for favorite bulbs, that they who had not ready money exchanged for them their goods—houses and lands, cattle and clothes. The trade was followed not alone by mercantile people, but also by the first noblemen, citizens of every description, mechanics, seamen, farmers, turf-diggers, chimney-sweeps, footmen maid-servants, old clothes dealers, &c.

At the commencement of the rage, everybody won, and no one lost. Some of the poorest people gained, in a few months, houses, coaches, and horses, and figured away like the first characters in the land. In every town some tavern was selected which served as an exchange, where high and low traded in flowers, and confirmed their bargains with the most sumptuous entertainments. They formed laws for themselves, and had their notaries and clerks.

These dealers in flowers were by no means desirous to get possession of them; no one thought of sending, much less of going himself, to Constantinople, to procure scarce roots, as many Europeans travel to Golconda and Visipour to obtain rare and precious stones. Tulips of all prices were in the market, and their roots were divided into small portions, known by the name of *perits*, in order that the poor as well as the rich might be admitted into the speculation; the tulip root itself was out of the question—it was a nonentity, but is furnished, like modern stocks and funds, the subject of a bargain for a time.

During the tulipomania, a speculator often offered and paid large sums for a root which he never received, and never wished to receive. Another sold roots which he never possessed or delivered. Often did a nobleman purchase from a chimney-sweep tulips to the amount of 2,000 florins, and sell them at the same time to a farmer, and neither the nobleman, chimney-sweep, nor farmer had roots in their possession, or wished to possess them. Before the tulip season was over, more roots were sold and purchased, bespoke and promised to be delivered, than, in all probability, could be found in all the gardens of Holland; and when the *Semper Augustus* was not to be had, which happened twice, no species was perhaps oftener purchased and sold. In the space of three years, it is said, more than ten millions were expended in this trade in one single town of Holland.

The evil rose to such a pitch, that the States of Holland were under the necessity of interfering; the buyers took the alarm; the bubble, like the South Sea scheme, suddenly burst; and as in the outset all were winners, in the winding-up very few escaped without loss.

VIII.

Observers who, in short periods of time, have passed over vast tracts of land, and ascended lofty mountains, in which climates were ranged, as it were, in strata, one above another, must have been early impressed by the regularity with which vegetable

forms are distributed. The results yielded by their observations furnished the rough materials for a science to which no name has yet been given. The same zones, or regions of vegetation, which, in the sixteenth century, Cardinal Bembo, when a youth, described on the declivity of Etna, were observed on Mount Ararat by Tournefort. He ingeniously compared the Alpine flora with the flora of plains situated in different latitudes, and was the first to observe the influence exercised in mountainous regions, on the distribution of plants, by the elevation of the ground above the level of the sea, and by the distance from the poles in flat countries. Menzel, in an unedited work on the flora of Japan, accidentally made use of the term "geography of plants;" and the same expression occurs in the fanciful but graceful work of Bernadin de St. Pierre, *Studies of Nature*. A scientific treatment of the subject began, however, only when the geography of plants was intimately associated with the study of the distribution of heat over the surface of the earth, and when the arrangement of vegetable forms in natural families admitted of a numerical estimate being made of the different forms which increase or decrease as we recede from the equator towards the poles, and of the relations in which, in different parts of the earth, each family stood with reference to the whole mass of phanerogamic indigenous plants of the same region.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

WOODWARD'S ANNUAL OF ARCHITECTURE, LANDSCAPE GARDENING, AND RURAL ART, for 1867, is now ready. 120 pages; 160 engravings; 12mo. Paper, 75c.; cloth, \$1. Post paid by mail.

We have just published at this office the first annual number of the above work. It contains 170 original and practical designs for low-priced cottages, barns, and the different outbuildings required on country

places, together with numerous plans for laying-out small tracts of land. The designs and engravings have been prepared expressly for the work, are executed in the best manner, and printed on fine calendered paper.

We confidently recommend this Annual to all our readers, as supplying in part the great demand for "homes for the million;" and the elegant manner in which it has been prepared, together with the low price at which it is offered, warrants us in predicting for it a very large sale. The universal circulation of such a work would do much to improve public taste. There is scarcely a family in the land but are in need of the many hints it contains.

RASPBERRY NOTES.—We have noticed a tendency during the past few years to run upon the blackberry, to the neglect of the raspberry, so far as raising fruit for market was concerned. The result is, raspberries are yearly growing scarcer and selling higher, while "plenty as blackberries" is literally true with that fruit, and growers complain of light returns in money, not berries. It is now time to change the current and revive the neglected raspberry.

For family use *Brinkle's Orange* ranks No. 1, and when better known will sell where it does not have to be carried far. Flavor excellent, size large, abundant bearer, and ripens its fruit over a long period, thus extending the raspberry season. It is only half-hardy, and should be laid down and covered with earth, or otherwise protected during the winter. The canes are strong and branching, and have the merit of not suckering freely.

Doolittle's Black Cap is a valuable variety, to say nothing about its improvement over the ordinary Black Cap. Our own opinion is that high culture of transplanted Wild Black Caps would make the "improved" in a very few years, but as the Doolittle is abundantly propagated by nurserymen—it can be increased very rapidly with no skill on the part of the grower—and is now sold

at a reasonable price, it is better to buy enough to start with, which need not be over two dozen for a large family. When well established, each root or stool should yield four to six quarts of fruit in a season, so prolific are they. They are perfectly hardy, even as far north as Maine. The objection raised against them are, color, ripening nearly together, and thorny canes. By training upon a high trellis, keeping sheared or tied in, they can be conveniently managed. They incline to a lengthy growth, and after reaching the top of a six-foot trellis, may be allowed to bend over and return to the ground, affording a bearing cane both up and down. Even with this length, on rich soil, the extremity will often reach the soil and take root, thus furnishing a new plant, this being the way it propagates itself. The old root will live many years and throw up new shoots close to the bearing canes. They may be trained upon buildings or high fences. Growing in clusters, the berries can be picked rapidly, and, to our taste, are not bad either in pies, puddings, dumplings, as a sauce, or served up raw with sugar. It bears carriage to market well, and is growing in favor both with dealers and consumers.

Franconia, *Fastloff*, and *Hudson River Antwerp*, are all good, and each has its favorite among growers. The latter, being firmer, is the great market berry, but for family use we prefer either of the other two in point of flavor. They are all good bearers, of large size, and each should be protected during winter. This protection is a bug-bear to some; but take them after a rain, when the canes are soft, and they may be bent down along the line of the row, beginning at one end and bending each cane toward the other end, securing it with a little earth, until all are down; then go along each side and bank up over them just enough to keep them covered during the washings of winter. To afford room for this, the rows should be four feet apart. A person will soon learn to cover them rapidly. In field culture a horse and plough will do most of the labor.

Lindley's Fastolf is reputed to be a seedling of the Fastolf, but carries more of the appearance of having sprung from a wildling. It is sufficiently hardy, as claimed, but with us does not yield fruit in quantity, size and quality to suit. We prefer the labor of covering a more prolific, larger and better sort. There are other varieties of merit, but the above are sufficient for all practical purposes.—*New York Tribune*.

TEMPERATURE OF PLANT AND FRUIT HOUSES.—One of the greatest errors committed by inexperienced gardeners, and those in charge of small plant or fruit houses, is in the keeping of a relative temperature day and night. As a rule, the temperature at night is always too high. Plants require rest at night, and can only have it by a reduced course of vital excitement. The heat at night should always be below the minimum of that during the day, and again, the heat during a cloudy day should not be brought up to the maximum of that on a clear, bright, sunny day.

HEDGE PLANT.—For a compact and beautiful hedge-plant, there is none that has stood the test of all positions so well as the Buckthorn (*Rhamnus Catharticus*). It does not sucker; it bears the shears perfectly; it vegetates early in the spring, and holds its leaves late in fall, and, when well formed, and four to five feet high, not a thing can pass through it. The seed should be gathered and sown in the fall, in light mellow land. The following spring it will nearly all vegetate, and form plants of sufficient size for transplanting to the hedge-row the succeeding year.

THE HYBRIDIZATION of ferns has long been a disputed problem. But it is now claimed that it has been accomplished. The conditions, however, under which the result can be attained, are so difficult and delicate, that hybrids of ferns must be exceedingly rare, if ever found at all.

WOODWARD'S COUNTRY HOMES.—Eighth edition; eighth thousand; revised and enlarged; 12mo.; 192 pages; 150 designs and plans for country houses and outbuildings of moderate cost, with illustrated description of balloon frame. Extra binding, cloth, \$1.50, post paid.

THERE is a singular want of appreciation for our own horticultural products among our leading cultivators. An imported flower or fruit stands a better chance of becoming popular, and being sought after by a multitude of people, than our home productions, even though they may be superior in every way. We do not mean, of course, to discourage the importation of new varieties. On the contrary, we would have our horticulturists avail themselves of every favorable opportunity to introduce superior, well-established, and new varieties of foreign productions. But at the same time, encouragement should be liberally given to our own cultivators who are laboring to improve our native fruits and flowers. We have capabilities of soil and climate, and patient culture to secure varieties superior to anything that can come from abroad.

WEeping LARCH.—This most graceful as well as curious of weeping deciduous trees, originated by chance in a seed bed grown by W. Godsall, Hereford Nursery, England, about 1834.

GRAPE YIELD.—In 1837, the *Cincinnati Gazette* recorded six hundred and seventy-seven gallons of pure wine as the product of eighteen thousand square feet, less than half an acre of ground. The grower was Jacob Resor, and the varieties Catawba and Cape.

In the same year, Mr. Herbemont, of Columbia, S. C., reported five hundred and twenty-eight gallons from one-sixth of an acre. These records we give to show some of our new beginners, who are at times a little disposed to boast, that large yields have been before their time.

GRAPES AND WINE.—Every man who has a grapevine should get a copy of Husmann's new work on the cultivation of the native grape, and manufacture of American wines. A practical book, by a practical and enthusiastic writer full of his subject, and able to impart sound and thorough instruction. Fully illustrated; 12mo.; 192 pages. Cloth, extra, \$1.50, post paid.—Published at this office.

BEE DEFENDER.—Charlatan bee men occasionally astonish the wondering multitude by forming the bees in a swarm all over their heads, &c., and again removing them to the hive, without any injury from their stings.

It is related in *Addison's Indian Reminiscences*, an English work, that the use of *ocgonum* (sweet basil), bruised and rubbed over the person, prevents the bees stinging, and renders their being handled in any way without injury.

WESTERN TIMBER LANDS.—"A long and exhaustive report upon the timber question of the West was on the 2d transmitted to the House Committee on Public Lands by Judge Edmonds, Commissioner of the General Land Office, in reply to a call for information, under the resolution of Representative Donnelly, as to the expediency of aiding experiments in promoting the growth of forests on the Western Plains. Judge Edmonds states that the vast Western Plains and plateau can only be rendered habitable by planting forests, which will fertilize and moisten the soil, soften and modify the climate, and protect men, animals, and crops, from the desolating winds of those regions. The supply of timber in the Western two-thirds of the Union is shown to be very meager, while the prairie region is vast in extent, until our people have risen from 3,000,000 to 33,000,000. We have gone through and surrounded the primeval forests, and now enter upon the margin of the great treeless waste with our original store three-fourths consumed, the

demand accelerated, and the consumers to increase from 33,000,000 to 50,000,000 during this century. Extend the time fifty years into the next century, and unless we commence to grow forests, we may be driven to the use of boards three inches wide, as in China at the present time. Is it not apparent that we should at once cease to needlessly destroy, and commence to produce timber. The Commissioner thinks the object cannot be accomplished by granting alternate sections of land, as the Homestead Act already gives land upon the condition of settlement. For the cost of planting and caring for infant forests, alternate sections of grants would be an inadequate consideration. He is not prepared to recommend any general system to encourage the growth of forests, but thinks one may be matured after free discussion, and when information is compiled as to the extent of natural forests, &c., which is now being prepared by the agents of this office. He closes with three suggestions: 1st. That the Homestead Act may be so amended as to oblige the planting of trees by the settlers. 2d. That Government surveyors be required to plant the seeds of trees adapted to the climate around each established corner.— 3d. That grants may with propriety be made for the purpose of demonstrating the possibility and feasibility of growing forests upon the great Western plains. Such an experiment would stimulate individual enterprise in that direction, which, after all, is the only trustworthy and efficient power for so great a work, and it would furnish facts which might aid in the development of some general system."

BUDDED ROSES should be carefully examined, and where any appearance of swelling, the ties should be loosened. Do not free the tie entirely, because, if so done, often the bud will break loose. Loosen the tie and tie again. In strong growing stocks or shoots it is not yet too late to bud, but the ties of the late buds will generally prove best to be left on until spring.

GET ALL OUR NEW BOOKS.—We have published at this office a series of nine books, on architecture, agriculture, horticulture, &c.; just what everyone should have in their library; all handsomely illustrated, printed on fine paper, and bound in uniform extra bindings. In addition, we furnish from this office all other publications on the same subjects, and execute orders for purchasing and forwarding all miscellaneous books.

We send books by mail, post paid, carefully packed; and the distant buyer can thus be supplied as low and receive his books in as good order, as by a personal application. Look over our priced Catalogue, send us your order, and it will be promptly executed.

NEW LAWNS.—The month of September is again the time for forming lawns. We have prepared the ground, and seeded it in September, and obtained a good coat of grass strong and vigorous before the frosts of winter sat in. The ground should be thoroughly trenched two spades deep, for without depth of soil the roots of the grass die out under the burning heat of our summer suns. Make the soil at time of trenching rich by working in it liberal quantities of old well rotted manure, or if the ground is sandy draw upon it freely of clay loam, rake down as fast as you dig, burying all lumps that do not easily break, leaving the top perfectly fine, light and smooth to receive the seed.

Obtain at the rate of four bushels of lawn grass seed to the acre—select a perfectly still time for sowing, and then scatter one-half your seed, rake this in finely and yet lightly—go over again cross ways and sow the balance of the seed, then roll all down., by passing the roller both ways over the piece.

If the weather should prove dry, directly after seeding it will not matter, the fall rains as a general result will in all seasons bring up the seed, and cause it to make roots capable of enduring the changes of winter.

A scattering of coarse straw manure, not rotten, over the whole, will serve to protect from change of temperature in winter, but it must be raked off carefully early in April next.

THE PEACH WORM.—Should be destroyed this (September,) month. Dig away the earth from around the crown of the tree, laying bare the stem two or three inches above and below, observe if any gum oozes from any point, if so, scratch away with a sharp knife cutting all dead bark that may be around and under the gum following the dead line until you meet "the enemy" in form of a little white grub one quarter to three quarters of an inch long as he may be old or young, kill without fear of future trial by civil or military Courts, wash the wound with a plaster of common soft soap, replace the earth raising a little mound around the tree of a foot or so high. Trees carefully cleaned at this time will be found free from grub in April next when they should again be examined. If the trees are now neglected many of them will be past saving in the spring as the grub will be found to have girdled more or less of the trunk.

GRAPE-VINES in the house will now be ripening wood, and care should be taken to give freely of air. Prune away all useless wood, that is small and lateral shoots.

Vines in the open ground now require only to have some of the laterals stopped; but do not prune back severely, under the impression that sunlight is wanted to ripen the fruit. It is the foliage that makes perfect fruit; and if severely pruned away at this time, a check is given to the vine, often resulting in unripe fruit and a weakness of the vine for another year.

PEARS should be gathered as soon as the stem will separate freely from the tree by gently raising the fruit. Nearly all pears are better for being ripened in the house.

NATIVE WINES.—Some weeks since, we received, from George Husmann, Esq., of Hermann, Missouri, a box of samples of wines of his manufacture. We had concluded, after testing samples of American wines that have been sent us for several years past, from different sources, that good wine would not be made in our country.—The climate, the particular grape, or the requisite skill in the manufacture seemed wanting to produce a palatable article; but we are happily disappointed in the product of Mr. Husmann's vineyards, some of which will bear most favorable comparison with the best wines of the Rhine, and must meet with favor among those who are good judges of the article.

Among the kinds particularly worthy of notice, are Norton's Virginia, Herbemont, Delaware and Catawba.

Do NOT permit any fruit to go to waste. Imperfect, wormy apples or pears, if not in quantity for cider, may be mashed in a tub, the juice pressed, and added to the vinegar barrel.

HORTICULTURAL EXHIBITIONS.—The season for holding exhibitions, of fruits, flowers, &c., is now again with us, and of course new varieties of fruits, &c., will come forward for premiums. We beg respectfully to call the attention of committees and officers of societies to the fact, that most of our societies, devoted to the agricultural and horticultural interests, have adopted pomological rules respecting the introduction of new fruits to the tender mercies of the public, and at the same time to remind them that, in some strange unaccountable manner, we have almost yearly a list of *new first premium* sorts issued, and never afterward heard of. This season, we hope no new fruit or flower will receive special favor unless it fully meets all the requirements of pomological rules. Our lists are already overburdened, and any new candidate to public favor should have a more thorough examination even than is given to admis-

sion of members of the Bar at the West.—Let us, too, pray you have no more second-rate productions, or untried fruits, offered or sale as *first premium* to gull the public.

THE SCIENCE OF GOVERNMENT IN CONNECTION WITH GOVERNMENT INSTITUTIONS.—By Joseph Alden, D. D., L. L. D., late President of Jefferson College, Author of Elements of Intellectual Philosophy, &c. New York, Sheldon & Co., pp. 250, 12mo.

The author says the object of his "book is to aid the young in acquiring the knowledge necessary for the discharge of their duties as citizens of the United States." It contains knowledge which ought to be possessed by every citizen, and it is so clearly expressed as to be perfectly intelligible even to those who have not read on the subjects of which it treats. It gives first the general principles of government, then an account of the origin, formation and adoption of the Federal Constitution. Next comes the Constitution itself, by sections, each accompanied by brief, clear, and satisfactory comments; next the relation of the State Government to the National Government and the general provision of the State Constitutions; then the relation of city and corporate governments to the State Government; and lastly, the relations existing between nations, or the general principles of International Law.

It is rare that we find so much knowledge condensed within so small a space, without obscurity or dullness. The book is designed primarily as a text book, but will be found interesting and profitable to every citizen. Its wide introduction as a text book in our academies and schools would do much to prepare the rising generation to manage successfully our political institutions. If there is any that our youth should study, it is the nature of the government and its institutions whose control will soon pass into their hands. It would seem folly to study the institutions of Greece and Rome to the neglect of those of the United States.

WE have now ready, a practical work on the propagation, cultivation, and management of forest trees, by Andrew S. Fulier, the popular author of the "Grape Culturist" and the "Strawberry Culturist." This work is handsomely illustrated, and conveys just the information desired by practical men who propose to plant for timber and fuel.

The book contains about 200 pages, in extra cloth binding, and uniform with the books already published by us, and sent free by mail to any address, on receipt of \$1.50. We predict for it the same wide circulation, and extraordinary success, that has attended the publication of "WOODWARD'S COUNTRY HOMES," the 8th edition of which, revised and enlarged, is now ready.

TRANSPLANTING EVERGREENS.—We have found the middle to last of this month, September, a good time to remove evergreens. They have now completed their growth; the wood is firm, and if removed with care and the roots kept from getting dry, the warmth of the soil at this season causes them at once to form new rootlets and prepare for winter.

Unless our trees are small and removed with balls, we practice heading back of all the limbs and even the leader fully one-half to two-thirds of the growth. It matters not what the variety, all the evergreen family appear to bear this heading back without injury. In fact, in nine cases out of ten the following year's growth more than compensates. It also helps to thicken up the tree.

ROSE CUTTINGS made this month and planted in a cold frame will form roots and come out fine plants next spring. The bed should have good, fine, rich soil at the bottom with fine, clean sand at top, then the buds of the cutting will not rot, and the roots as soon as formed, will have food in the good soil.

CLEAN THE GROUND.—All the grass or weeds around the trees in young orchards should be carefully cleaned away in the fall but avoid digging or plowing deep around them at this time. Stir and loosen the ground two inches deep, then cover four inches deep with some material for a mulch, but at no time permitting the mulch nearer than four inches of the body, or the mice may chance to girdle the trees before spring.

MULCHING STRAWBERRY BEDS.—In mulching strawberry beds do not go on the principle that if a little is good, more would be better, for it is not so with practice in this particular. The mulch should be only, say one and half or two inches thick, simply to prevent the roots being injured by frosts during winter. A too deep mulch, say of six or more inches, we have known to entirely destroy the vines.

SELECTION OF SHRUBS.—One of our lady subscribers asks for a list of some of the best hardy flowering shrubs for a small garden. In selecting shrubs for small grounds, the beauty of the blossom should not alone be sought, but good foliage and fine habit of growth are desirable in continuing the beauty and show of the grounds during the whole season.

Of the many sorts now grown best desirable to have, we name: *Spirea billardii* and *prunifolia flore pleno*; *Deutzia gracilis*; *Weigela alba* and *groenewegii*; *Ribes gordoniana*; *Clethea paniculata*; *Magnolia purpurea*; Tartarian bush Honeysuckle; Venetian sumac or fringe tree; *Spirea tomentosa* and *Reevesii flore pleno*; French red and white lilacs, and the white and scarlet Japan quince.

CUTTINGS of the gooseberry, currant, and nearly, if not quite all the flowering shrubs, made and planted out this month in light, deep, well drained soil, will callus and often make considerable root and grow vigorously next spring.

PROPAGATE PANSIES.

PLANTING BULBS.—In our practice with bulbs of all sorts, we have found the following to give us the best satisfaction. First, make our ground rich with well rotted manure, dig it two spades deep, take off the surface to the level of planting our bulb, place on the bed one inch of clean sand, in that place our bulbs covering them entirely with the sand; then add our rich soil to the requisite depth of three inches, and then spread over the whole bed some refuse mulch, such as pea or bean, haulm, etc., to a depth of three or four inches. Bulbs should be planted at various times, as those planted early in October will bloom much earlier next spring than those planted in November. We generally make three plantings, one early in October, one in the middle of the month, and a last early in November.

The practice of placing *Crocus*, *Narcissus*, etc., around and beneath the shade of large evergreens, or on the border of a shrubbery, etc., is very effective, provided the lawn is kept closely shaven and all the ground in fine order; but for small grounds, pattern beds, cut out of the turf, filled with the bulbs and afterwards with summer flowering plants, give to our eye the best effects and are the least trouble and expense.

Do not be in too great haste to gather grapes; remember that they are not ripe as soon as colored, and that the longer the fruit hangs upon the vine the richer and sweeter it becomes. Grapes, unlike most other fruits, do not ripen any after being gathered.

Young plants of verbenas should now be taken up, potted and placed for a few days in the shade to get established. Layers for winter plants, made directly into the pot by sinking the latter in the ground alongside of the main plant, and afterwards separated, are by many regarded the best.

Planters of trees in the medium Southern States will do well to remember the English walnut. These perfectly hardy and well-grown trees have been known to produce twenty or more bushels, making it a profitable fruit to grow.

Tie up and prune Dahlias that have grown too straggling, the last of this and first of next month will give the best bloom.

CHRYSANTHEMUMS, if not in pots, may yet be potted and trained for early winter bloom in the family room.

Those already in pots may require shifting into larger size pots. They should be well watered, and occasionally with manure water.

CAMELLIAS should be carefully washed, top dressed and got in condition for ready removal to the house as soon as the nights become frosty.

GREEN HOUSE PLANTS of all sorts should early this month be got ready for removal to the house.

HEARTT'S PIPPIN.—In the August number of the *HORTICULTURIST*, Reuben inquires if I can give some account of Heartt's Pippin. Many years since, I saw a fine large apple in Mr. Heartt's (I have forgotten his christian name) orchard at Troy N. Y., which he did not at the time know the name of, but was called by the neighbors Heartt's Pippin. I took buds for trial, which failed to grow, and sent for grafts the following spring, which, by some mistake, proved to be the apple described by F. R. Elliott in the June number of the *HORTICULTURIST*, which was not correct, and only a small fruit, of second-rate quality; while the apple seen at Mr. Heartt's, was large, ripening in September, and which afterward proved to be the old English Codlin, so that there is really no distinct Heartt's Pippin.

CHARLES DOWNING.

CIRCULAR OF THE AMERICAN POMOLOGICAL SOCIETY.—*Whereas*, the American Pomological Society was ordered to be convened at St. Louis, Mo., on the fourth day of September next, for the purpose of holding its eleventh session; and *whereas*, the existence of cholera in several of the cities of the United States has become manifest, thereby creating more than usual precaution in regard to visiting places distant from home; therefore, in consideration of this fact, and also of the fact that there is a small crop of fruit in many parts of our country, the undersigned, by and with the advice of the Executive Committee and other leading pomologists, does hereby postpone and defer the meeting of said Society to the year A. D. 1867, when due notice will be given of its assembling in the aforesaid city of St. Louis.

MARSHALL P. WILDER, *Pres.*

JAMES VICK, *Sec.*

MESSRS. EDITORS :

I promised to give the *HORTICULTURIST* my method of planting, in the open ground, vines started from single or double eyes, in hot-bed or propagating-house, as soon as I could be certain, from another year's experience, that in any weather—hot or cold, wet or dry—there will be no chance of failure. Last year, I transplanted between two and three thousand Delaware and Iona vines from a hot-bed to the open ground, and did not lose one per cent. By Fall, they all made large fine vines, and were, this spring, again planted in the nursery (I plant in my vineyard, and offer for sale, only two-year-old vines), and at this age, they are nearly all of them three feet high.

For two months past, I have been transplanting from my hot-beds plants of the Delaware, Iona, Diana, and Concord—several thousand of each. They have been planted in all sorts of weather. Three weeks ago, I planted two thousand Delaware and two hundred Iona. The ground was very dry at the time, and for ten days

not a drop of rain fell, and there was no dew at night; everything in the fields was parched, burning up from want of rain, yet with the exception of three small plants, that I did not expect to live when I planted them, the vines are to-day all growing finely.

Yesterday morning, I transplanted four hundred Delaware that had been left too long in the bed, many of them one foot high. The thermometer showed intense heat, 98° in the shade; the plants drooped a little, but to-day look as fresh as ever, though the heat is the same as yesterday's, and the sun shines equally as bright. None of these plants have been shaded or protected in any manner.

My method of planting or transplanting is this:

1st. I throw up the ground into beds four feet wide, pulverizing the soil thoroughly. I plant three rows in a bed, one foot apart in the row. The plants taken from the sand of the propagating-bed are carried in anything that will hold water enough to cover the roots. The planter, taking a plant in one hand, with the other makes a hole in the bed deep enough to take in all of the old wood, and large enough so that the roots will not want for room.—Then, setting the plant in place, a boy pours in water, filling the hole nearly full. The planter, holding the vine in place with one hand, draws the fine soil quickly around it with the other. The water, when first turned in, floats all the little roots out to their full length; then taking up the fine soil, deposits it around them in the most perfect manner, and the vine is planted.—Care must be taken not to press down the earth around the plant, and also that not a drop of water comes to the surface, either of which will cause the soil around the plant to become hard, and the vine will die of course.

Vines planted in this manner need no protection, except from high winds; and, if the work is carefully done, and the plants not too large, they will not even stop grow-

ing. They should be carefully tied to stakes. I have, as I said before, planted several thousand within the last two months; none have been shaded or protected, and I have not lost a single vine that had fair roots when taken from the hot-bed.

I not only plant vines in this way, but everything, from cabbage and tomato plants up to evergreens six feet high. I don't wait for wet weather, or for evening, to set out tomato, cabbage, or the most delicate flowering plants. I set them at mid-day, and in the dryest hot weather. I do not shade or protect in any way, and yet they never fail to grow.

I ordered from Rochester this spring about thirty large evergreens, together with a lot of fruit trees. They were over two weeks on the way, and on opening the boxes, I thought they were past saving.—They were all splendid trees, the evergreens being four and five feet high, but the roots of all seemed to be perfectly dry. I planted them all in this way, using a bucket of water to each tree, and to-day *every one of them are growing finely*.

I think this is the only way of thoroughly planting evergreens grown in nursery; in no other way can the soil be settled around each little fibre of the fibrous mass.

If the ladies will try this way of transplanting their flowering plants, they will never fail in making them live, and it is much the easiest way of planting. Always graduate the quantity of water by the size of the plant. Take care that the surface around the plant is covered with fine dry soil, and never press the soil down. Let the water settle it, and it will be right.—*Never water after planting*; at least, not until the plant is thoroughly established.

This is the way, and the only safe way, of setting sweet potatoes. Never at planting omit water, in hot or dry weather.

Any of the readers of the HORTICULTUR-

IST who may try this method of transplanting or planting, will oblige me by letting me know of their success or failure.

CHARLES J. MAY.

Herbmont Vineyard, Warsaw, Illinois.

July 10, 1866.

A NEW AGRICULTURAL THEORY.—The Texas correspondent of the New York *Tribune*, writing from Castorville, tells the following singular story about planting watermelons: "When we had stopped to feed ourselves and water our horses, about noon on the first, and about five miles from Austin, a superannuated negro man old enough to be mossy, came down to the fence, and after regarding us over the top rail for a minute, inquired if we would buy some millions (watermelons). Several of us went with him to his 'patch,' which was about half an acre in extent. His melons were the largest I had ever seen, but there was one monster that loomed up above its fellows like an elephant among oxen. Some one asked him the price of it. 'All I want is the price of the chicken, sah!'" Seeing no chickens about, an explanation was asked. 'Why, you see, sah, early in de spring, before plantin' time comes I takes a young chicken, as soon as his throat gets big enough, and feeds that chicken with seven dry watermelon seeds—just seven—and just as soon as he got dem seven seeds down his throat I kills him, and sah, I plants dat dar chicken in de middle ob de patch.' 'What,' asked one of the party, 'do you mean to say that this is the way you raise melons?' 'Dat is de way I raised dat one, sah,' replied the old man, 'and I'se done dat same thing dis forty year, and long afore I was into Texas.'" We satisfied ourselves with some twenty smaller ones, whose parent vines had originated in a less objectionable place." Who says negroes have no ideas of their own?

THE HORTICULTURIST.

VOL. XXI.....OCTOBER, 1866.....NO. CCXLIV.

LAWS OF ASSOCIATION IN ORNAMENTAL GARDENING.—CONCLUDED.

BY A. D. G.

THE reference made in a former article to some of the associations of trees and flowers, will suffice to show that the work of planting and training them may be made an interesting and elevated employment. Some persons have no love for gardens. A splendid equipage, costly furniture, sumptuous entertainments, and a surplus at the bank, are with them the chief good. With others, gardens are places of mere amusement or sensuous gratification. What more comfortable than to lie outstretched upon a velvet lawn, beneath a spreading shade-tree, regaled with the sight of brilliant flowers, and half intoxicated with their perfume? And then, gardens are fashionable; no gentleman's place is complete without one. Others have no higher conception of gardening than as the mere mechanical operation of laying-out surfaces in artistic shapes, planting them by rule in some conventional method, and embellishing the whole with works of art.—But, rightly viewed, it is something more than this. It is dealing with associations

at once sublime, tender, and beautiful. It surrounds us with the past as with a continual presence. The great and good of every clime and age are here again, and repeat before us the words and actions of their daily lives. A thousand fancies flutter amid the branches over our heads, and nestle in the flower-cups at our feet. We hear “the voice of the Lord God walking in the garden,” reminding us of his continual presence and fatherly care. We find a new charm added to domestic life, which grows stronger with every passing year, and makes home the full realization of its sacred name.

The necessary inference from what we have said is, that the principal of association should be regarded in all attempts at ornamental gardening. It is not enough for us to set out a few of the most common trees and plants which are of rapid growth and easy culture. The ailanthus, maple, horse chestnut, and silver beech are excellent trees; the cabbage rose, lilac, and syringa are pleasing shrubs, and should be

universally planted; but these alone will not constitute grounds well furnished.—Something more is wanted than trees enough to occupy a given space, and afford a given amount of shade. We want those which are truly fit and beautiful, and those likewise which are interesting from their suggestiveness. The balsam fir, for example, is a good and serviceable tree; but, where the climate will permit its culture, we should prize the Lebanon cedar more highly. For the same reason, we would plant the oak in preference to the button-ball or bass-wood. The syringa and lilac are handsome, but we would not fail of the hawthorn, the holly, and the yew. The verbenas and petunia are gay and desirable flowers, but we would not neglect the violet, the myrtle, and the bee-haunted thyme.

Why should not one's grounds contain as great a variety of trees and plants from different countries and different climates as the space will permit—at least so far as this can be done without sacrifice of essential fitness and propriety? A daily walk in such grounds would be a daily delight. It would bring before us many of the rare and beautiful products of other lands, without the exposure of fatigue and travel. It would give us some little idea of the richness and variety of the productions of the vegetable world; and it would furnish a pleasing study to note well their peculiarities of form, structure, and growth, as compared with those of our own neighborhood.—That some of these trees and plants would require more pains to cultivate them than the common growths of the wayside, would be no objection. This very care would attach us to them by an additional tie. Nor would we object to this mode of planting grounds because it requires more study and reflection; for here the pursuit of information would bring its own reward. A garden scene so constructed would be something above the tangled mass of a wild forest; something better than the formal and monotonous rows of trees and bushes

so common in our door-yards; it would be a scene in which the scholar, the poet, the man of sensibility, the christian, would each find something to quicken his thoughts, and yield him a perpetual delight.

In view of the foregoing thoughts, we will venture a criticism upon a certain canon of writers on landscape gardening. It is commonly recommended that, in choosing a site for a country residence, one should be selected, if possible, that is already covered with native trees. This would answer very well if trees were wanted only to furnish an abundance of shade; but this is a small part of their use. They are wanted for their individual as well as combined beauty; for their fitness, and for the associations connected with them.

When forest trees have grown in open situations, detached from one another, they are sometimes all that can be desired on the score of beauty; but when such cannot be found, it is much better to choose a naked site, cultivate the soil thoroughly, draw up a well-considered plan according to which the grounds shall be planted, select trees and shrubs suited to the place they are to occupy, and then rear them with all possible care. In a few years they will present to the discriminating eye a finer scene than could be produced by any number of tall, naked denizens of the woods.

But, however this may be on the score of simple beauty and fitness, we maintain that the aboriginal growth of the soil till now uncultivated is deficient in one important respect—the charm of association.—The wild forest trees of Massachusetts have not the interest which attaches to the ancient trees of Cambridge and the Boston Common. The venerable elms overshadowing the New Haven Green are more venerable than elms of the same size and age in the woods of Connecticut. The trees around our oldest family mansions derive their chief interest from the domestic history which has transpired beneath them.—

We maintain, accordingly, that, in choosing a site for a country dwelling, it is not important to select one already covered with forest trees. Such trees have no history. Their associations, so far as they have any, are those of savage life, or of a wild, unpeopled solitude; and, were a new home established among them, there would be no proper connection between them and the life experience of that home.—Pleasant, indeed, it certainly would be, on many accounts, to have trees already grown about one's doorway—it would save a vast deal of time, and labor, and care; but a thoughtful man would always feel that there was something out of keeping between the new home and the old trees; that it would take many years to civilize them; and that at best their early history would be barren, utterly void of any human interest. He would rather plant his trees when he plants his house, and let both grow together, and have a common history.

And here follows another criticism. It is deemed important by many, in preparing new grounds, to remove into them very large trees, for the sake of producing an immediate effect; or, in other words, of giving to a new estate, the appearance of an older one. This work is often accomplished by taking up the trees in winter with huge balls of frozen earth attached to the roots, raising them by means of machines constructed for the purpose, and hauling them to the desired place by powerful teams of horses or oxen. Operations of this kind have been performed in England and in this country with a good degree of success. Undoubtedly, there are some advantages in this plan, yet it is open to objections. To say nothing of the mutilation of trees thus removed, from which they seldom fully recover, trees thus planted lack the associations which should belong to them; nay, they acquire some unpleasant associations. There is a species of felt deception about groves thus made to order by machinery. They do not belong

there; they did not grow there; they are interlopers; they were brought thither while men slept, by some kind of trickery, or at least by some artificial process, and set up full-grown to impose on all beholders.

In speaking of ornament in architecture Ruskin says that its agreeableness arises not only from its abstract beauty, but also from "the sense of human labor and care spent upon it;" from the fact that "the record of thoughts and intents, and trials and heartbreakings, of recoveries and joyfulnesses of success" has been associated with it. "As a woman of feeling would not wear false jewels, so would a builder of honor disdain false ornaments." He should use ornaments "wrought by the human hand, not those cast in moulds or cut by machinery to imitate the work of the hand. He should abhor all short, cheap, and easy ways of doing that whose difficulty is its honor." So say we in reference to landscape gardening. Pleasant as it might be to have our trees and shrubs brought and planted for us full grown, as by magic, we should hesitate to accept the gift. They would be false, machine-made ornaments, entirely wanting in any flavor of human thought, and labor, and care.

If a few old trees happened to occupy our chosen building-site, we would not cut them down; rather would be thankful for their refreshing shade while trees of our own planting were growing; but we would not transplant old trees into our grounds. We would select young trees and shrubs; some for their native beauty of form, branches, leaves, and flowers, others for their associations, whether historical, poetical, domestic, or otherwise. These we would group together into one harmonious scene. We would do this work, so far as possible, with our own hands—at least, it should be done under our personal supervision. Our own life should be mixed up with the life of each tree and plant. The hearts and hands of those we love should be intrusted and occupied in their cultivation. Day by day,

and year by year we would watch their progress, nursing their feebleness, rejoicing in their healthy growth, until at length we might sit beneath their expanding boughs, or pluck their abundant flowers and fruit. Such a garden would be worthy of the name. Its very ground would be hallowed. On the branches of every tree would hang gentle thoughts and pleasant memories. Its shrubs and plants would suggest ideas as varied as the forms of their leaves, and fancies as airy as the fragrance of their flowers. Such a garden would be a charmed spot, because linked with so much that is deeply and permanently interesting to the mind and heart of man.

A CHAT ABOUT EARLY SUMMER APPLES.

BY FRANK AMON.

As I sat in my library a few mornings since reading the *HORTICULTURIST*, my friend Bradford came in, with the pockets of his coat well stuffed out with apples.— He looked like an old picture I have seen of the jolly farmer, laden with good fruits from his orchard for his neighbor's children. That picture, by-the-by, I have often thought was got up "on purpose," as they say, because its indication is certainly one

that shows the wishes of the man to so imbue his neighbor's children with the love of fruits obtained honestly that they would urge their parents toward planting of trees, or in any event to plant for themselves, if ever they grew to be men; but as such farmers are not the ones we have now-a-days, why —

But this is nothing to what my friend Bradford wanted, which came in this wise:

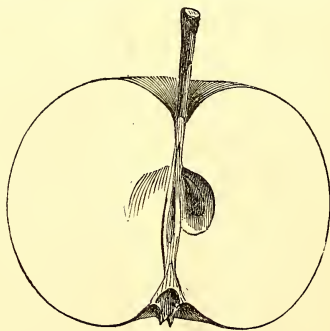


FIG. 112.—*The White Juneating.*

"I am about to plant some early apple trees this fall, and I have been looking over books and catalogues until I am all mixed up. I can't, or don't want to plant but a few trees, say one of a sort, but I want those the best. I have been collecting samples, and here I am to discuss them with you."

"Thank you," said I, "just what I want too; for, although I have been looking over

fruits, and growing and eating them many years, there is nothing I relish so much as a good sensible revision and taste of the subject."

"Here, then, is one I have found among the very earliest to ripen, and, to my taste, a fine little eating apple—the White Juneating."

"Yes; an old apple, too much neglected, mainly because the trees, when young, are slow of growth; but when they are once in the orchard they seem to grow well—not, it is true, as rapidly as Tetofsky or Red Astrachan, but as well as Early Harvest; while the fruit, although small, is generally fair, and, from its earliness, commands a high price in market. It is not

as tender as Early Harvest, and bears shipping better."

"Here is Tart Bough, or one I obtained under that name."

"Right; the tree is a good grower and bearer; but as it does not ripen until after Early Harvest, that variety, which we can now see by comparison, is better, and has superseded it. The Early Harvest, how-

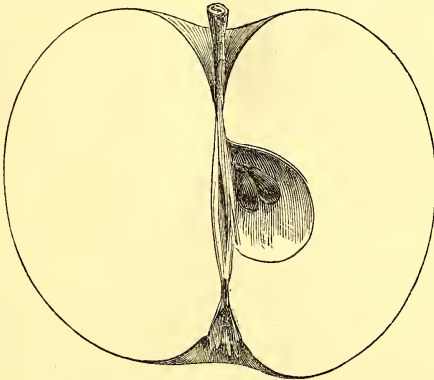


FIG. 113.—*Early Harvest.*

ever, requires good and abundant food in the soil, in order to grow good fruit; but in good strong soils, we have no more delicate early apple for table or cooking. As a market apple for shipping purposes, however, it does not answer, as it is too delicate; and as the tree does not suit all soils, it will not do for extensive planting. One tree or more on every man's place can be manured and made good; but we have so many sorts now, that in ordinary cultivation, will pay better even than this under high culture, as to make it only an amateur's fruit. You must plant of it, however."

"Well, next I have one called Irish Peach."

"Aye; showy, but watery; tree a fine grower; not worth our planting."

"Next, I have two old sorts, the Hagloe

and Summer Rambo; and—yes, here is also Early Red Margaret."

"True, old sorts; and it is to be regretted that the Hagloe has been so neglected. If you can get a tree of it, plant it; for it is a fine showy fruit, of more than good quality; and a good bearer. The Summer Rambo, [or Rambo Franc, becomes oftentimes, as you see this is, quite mealy and dry. The Early Red Margaret is a right good apple, but not rich enough in its flesh for an amateur apple: and for marketing, the Tetofsky which you have there will return more money. This, in fact, for marketing, deserves a first place. It is grown around Columbus, in Ohio, as the Fourth of July apple. It is a Russian apple; the tree a strong vigorous grower, seemingly adapting itself to all soils; bearing very young and abundantly a very handsome,

rather acid, but pretty good fruit; very valuable at that season for sauce. If you have ground to spare, you will find this a valuable sort for early use in the kitchen; and if you were going to plant for market

profit, this and Red Astrachan would give you more return than any other two early sorts. The specimen here is not a full-sized fruit; it is certainly one-quarter larger, and generally very regular, fair, and handsome."

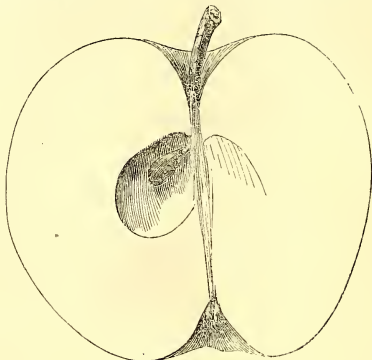


FIG. 114.—*Tetofsky.*

"Next, I have summer Queen."

"True; and a right good old apple, and in many sections yet regarded among the best and most profitable. Were you planting in a part of the country where this variety was proved universally successful, I

should say plant it in preference to Williams' Favorite, Early Pennock, Red Quarrenden, or Monarch, all of which are *good*, and only good, in their special localities.—The Queen, Pennock, and Monarch, you see, are of a similar character of flesh;

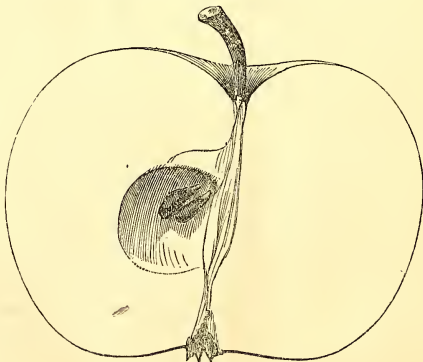


FIG. 115.—*Townsend.*

while the Williams and Quarrenden are quite different, but no better."

"Well, here is another that, to me, is no better than the Queen—the Townsend."

“Yes; not yet quite ripe. I have not quality has been no more than second-rate; often met with it; but when I have, its and coming, as it does, where there are so

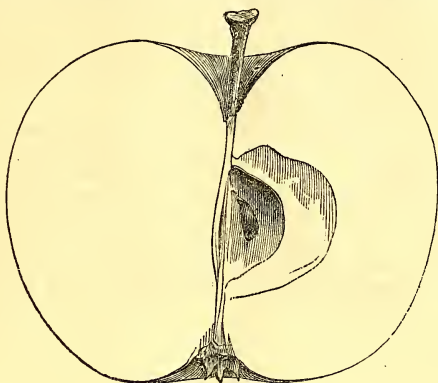


FIG. 116.—*Red Astrachan.*

many extra quality apples, I have not is firm; but I remember it fruiting well valued it highly. The sample we now have with me one year, and proving quite dry

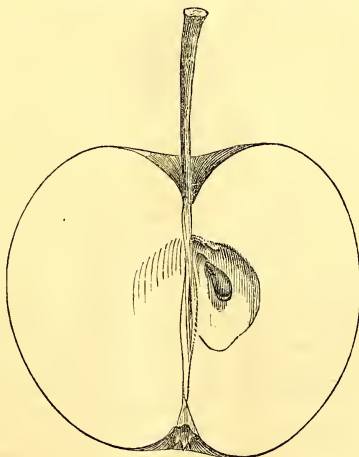


FIG. 117.—*Early Strawberry.*

and mealy. It is a large showy fruit, yellow and red, and in its native habitat may be valuable.”

“Well, here are two that I suppose you think should be planted—the Benoni and Red Astrachan.”

"Yes, they are both among the best.—Your samples of them, however, like your Tetofsky, are too small, for I have seen bushels of the Astrachan fully one-quarter larger. This fruit (the Astrachan), however, is not truly a table apple, but so valuable for cooking, and passable for eating, that you must have it. Benoni is one of the table apples, and for private or for market garden quite desirable."

"Next, I have early Strawberry, or, as the man who gave me the specimen called it, Red Juneating."

"Good, good! a capital apple to plant for your own table. The trees are handsome growers, great bearers, maturing the fruit

by degrees, so that it is one of the longest varieties in eating that I know; not, perhaps, a *first-class* quality, but I find children, who are said to know good fruit, never fail to eat the Early Strawberry."

"Well, here is Bevan and Kerry Pippin."

"Yes; the former tough as leather; and the latter as pretty, almost, as the Strawberry, but not half as good. Let's cut and outline the Pippin, for the purpose of remembrance, for it is not often that I now meet with the old fruit once familiar to me. The Kerry Pippin is certainly more than good in quality. It is a good bearer, and to one desiring to plant a fruit to transport

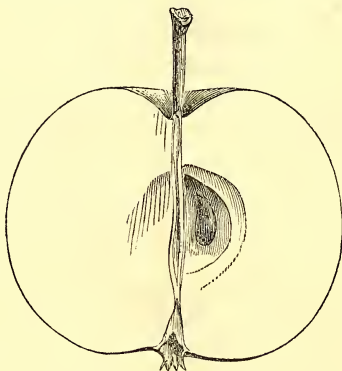


FIG. 118.—Kerry Pippin.

long distances, and preserve its character, we have nothing its superior. It, however, is not sufficiently acid for cooking, and it is too firm and crisp to please our American tastes, and therefore will probably never more be grown."

"Here are four sweet apples."

Aye, Sweet Bough. Indispensable, large; a regular, not great, bearer; tender and delicate; sweet for eating or baking; must plant one tree, at least. Then you have High Top Sweet, of the books; or

Sweet Summer, of Southern Ohio; and Sweet June, on West. Many regard it as indispensable; but I think this one, Golden Sweet, preferable. It is larger; the tree is a great bearer; the fruit is a rich sweet, perhaps a little too dry for the table, but fine for baking. If you were growing stock, this variety would pay well to plant by the acre; but for family use, one tree is all you want. The last you have is one called Early Sweet; and, so far as I know, originated with W. C. Hampton, in Ohio,

and has never been figured. It is deliciously sweet, juicy, and tender. If you can get a tree of it, plant it.

"What more have you, for I see your pockets are yet comparatively full."

"Oh; quite a number of sorts. Here are

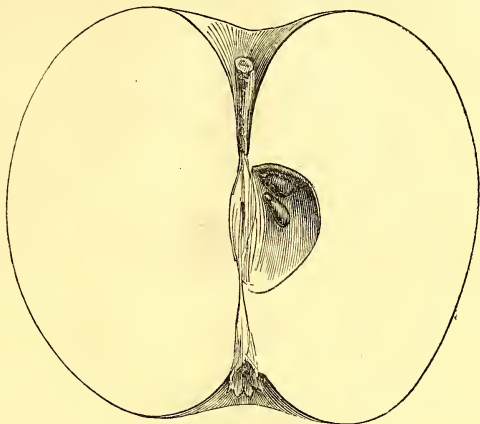


FIG. 119.—*Sweet Bough.*

two—the Red June and the Penn, or William Penn."

"Of the first I know a little. It is the popular apple south-west, in Illinois, Mis-

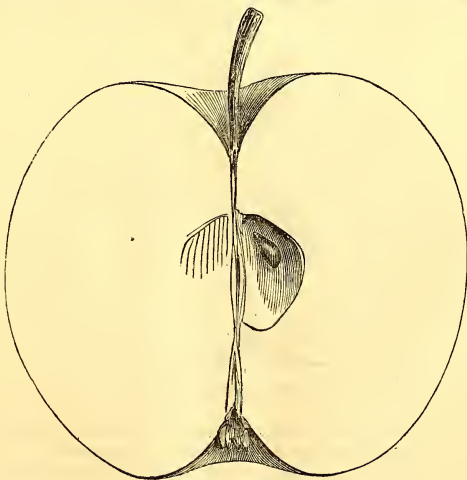


FIG. 120.—*Golden Sweet.*

souri, &c.; but east or north it has made little or no headway in favor. In quality, it is about equal with Williams' Red, and, like that sort, to be kept in its own locality.

"The Penn, or William Penn, is another local apple, probably, to be kept in its own section of origin, for it has been now twelve or fifteen years before the public, and makes no progress in favor. What next?"

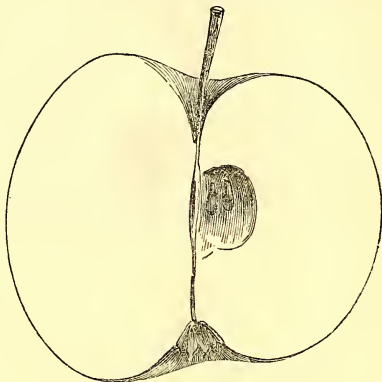


FIG. 121.—*Early Sweet.*

"Three with an *early* attached—Buffington's Early, Parson's Early, and Garretson's Early."

"The first is a tip-top little apple as you may taste, but the tree is not a good bearer. The second is too acid; not yet, as you see,

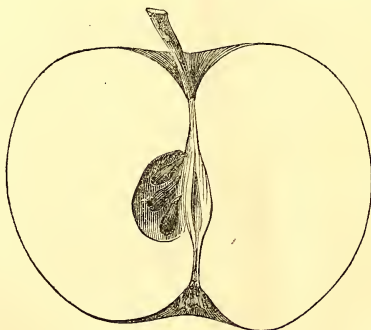


FIG. 122.—*Early Joe.*

quite ripe; of course there is now no comparison, for the first is fully ripe, and this is not so. The third is a quite good apple; comes after Early Harvest, and is not as

good, but the tree, I think, is a better grower. What more?"

"An old sort highly praised, but I don't find any good fruit."

"Ha! the Drap d'Or! An old sort, truly; and, so far as I know, never yet a good one. The fruit, like this sample is ripened mostly by an insect in the early season; and during the last of September, when it should be among the best, it is nothing as a table apple compared with the Garden Royal; or as a cooking or eating as compared with Gravenstein or Myers' Nonpareil. It is time it was laid on one side."

"My next is a little fellow—Early Joe."

"And a nice little one it is, too; rich as a pear; delicate and crisp, yet tender; juicy and handsome as a peach; the tree a great bearer. It has two rivals—one the

Summer Rose, earlier; and the Garden Royal, later. Here you have them all before you; and while one is in a good state for eating, there is enough in each of the others to tell you that your amateur plot of apples cannot do without them. We will outline the Early Joe and the Summer Rose, and leave Garden Royal for another time when we look over early fall apples. Have you any more?"

"Yes, here is Trenton Early."

"Pooh! old English Codlin; good for cooking only."

"Next, Summer Golden Pippin."

"Pooh! again, I say; good for nothing."

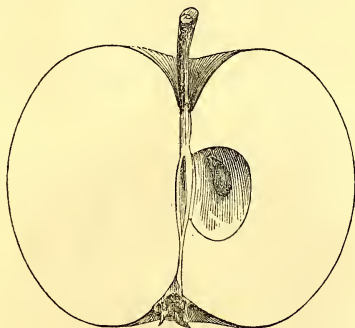


FIG. 123.—*Summer Rose.*

"Sops of Wine."

"Samples not quite ripe, but a capital little dessert fruit. Some good judges think this should be in all collections, no matter how small. I confess that, while I like the little fruit, I had rather have Early Joe; but if I had room for two trees to ripen about this time, I would prefer one of each to both of Early Joe."

"Only one more, and my pockets are empty."

"The Sine Qua Non, although the last of your lot, is nevertheless one of the good fruits in quality—in pomological language, probably, it would rank best—but unfortunately the tree is a poor grower, and not a good bearer; therefore, however

good the flesh of the apple, we must pass it, because it gives no satisfaction to the owner, either in looking at its growth, or in its number of fruits."

Having now, Messrs. Editors, looked over my friend's list of apples, I want to ask who there is, among our horticultural friends, that is making the apple, and the producing of new and valuable sorts, a special study?

Everybody eats the apple, and everybody who owns land enough for a tree to stand upon plants the apple, have done so, and will continue to do so.

As a crop, the apple pays not quite as soon as the grape, but, when once in bearing, with far less labor.

Now, why should not some one fall in love with the originating a new *early* apple. We want a *very* early one; good size, bearer, and all that sort of thing. I suggest to some one the impregnating Early June-ating with Tetofsky, or *vice versa*, and test the result. Who will try their hand? An early, very early, sort, would be a fortune to the grower.

LOW PRICED COUNTRY HOMES.

FROM WOODWARD'S ANNUAL OF ARCHITECTURE, LANDSCAPE GARDENING AND RURAL ART, FOR 1867.

WE give our readers some specimen pages from this new publication. This work has been specially prepared to meet a strong demand for low priced Cottages, Out-buildings, and plans for laying out small plats of ground. The book contains 176 designs and plans in all departments of rural art, and its universal circulation would be of vast benefit to the country. We have spared no time or expense in preparing and procuring practical plans; have had them engraved with great care,

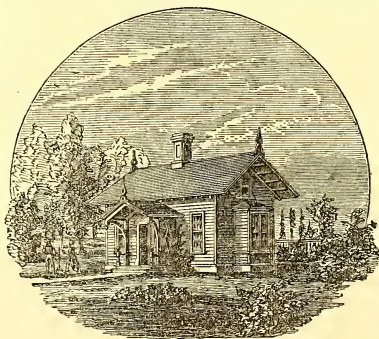


FIG. 124.—

and the work has been printed in the best manner on fine calendered paper. Every reader of the HORTICULTURIST should have a copy. It will be published annually from this office, and will be a thorough and practical work in all respects.

We extract the following approximate method of computing the cost of buildings:

COMPUTING COST.

A simple and rapid plan for estimating the cost of any building is by comparison.

If carefully done, it will give figures that may be relied on. We have said before that it would be productive of much mischief to name prices in a book like this. The only prices we could give would be local ones, and these are changing here every day. We were of this opinion when we prepared "Woodward's Country Homes," a book that has met with extraordinary success, and has been ordered from every

quarter of the globe; and experience thus far confirms us in the belief that the opinion then formed was correct.

The best substitute for prices, on which confidence may be placed, is the following, a plan much used by builders to test the accuracy of their detail estimates:

We will suppose that a party desires to erect a building in the vicinity of Madison, Wis., where prices of materials and labor



FIG. 125.—*Farm Cottage.*

differ largely from New York prices. Let him select such a house already built in that vicinity as shall represent, in style of architecture and character of finish, about what he desires to construct, and of which the cost of building is known; then compute the area or number of square feet covered by the building; divide the number of dollars of cost by the number of square

feet thus found, and the price per square foot is ascertained.

Thus a house 40 feet by 40 feet covers an area of 1,600 square feet; it costs \$8,000; and dividing \$8,000 by 1,600, shows \$5 per square foot. Now what will be the cost of a similar house covering 1,400 square feet?

$$1,400 \times \$5 = \$7,000.$$

This plan will do very well to approximate roughly to cost. A better and closer one is to ascertain the cost per cubic foot.

Thus, a house 40 feet by 40 feet, and an average height of 30 feet— $40 \times 40 \times 30 = 48,000$ cubic feet, cost \$7,200, or fifteen

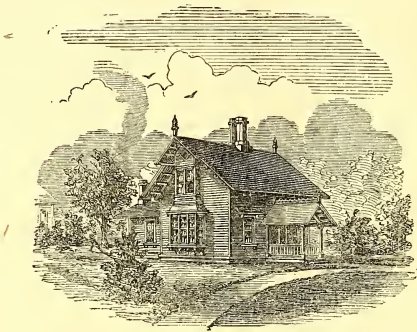


FIG. 126.—*Farm House.*

cents per cubic foot. Then a house containing 57,000 cubic feet, at fifteen

would cost \$8,550. Where all conditions of comparison are equal, such as equal

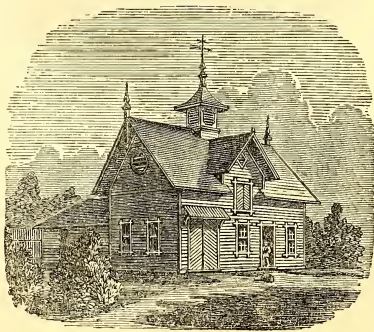


FIG. 127.—*Barn.*

facilities for buying, equal advantages in capital, credit, good management, etc., one can very closely, by this last method, as-

certain about the cost of such a building as he proposes to erect.

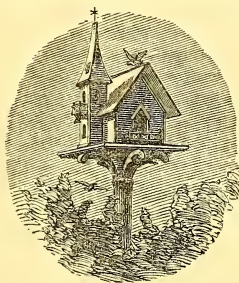


FIG. 128.—*Bird House.*

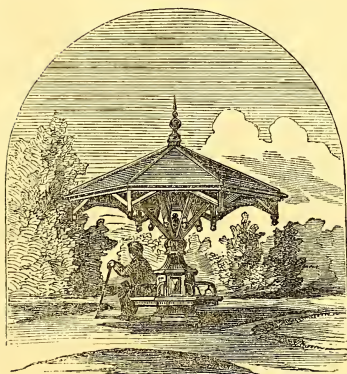


FIG. 129.—*Seat.*

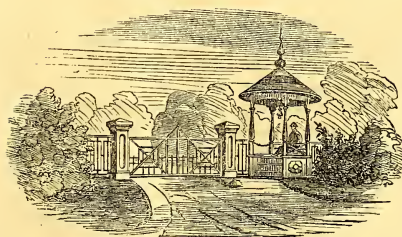


FIG. 130.—*Entrance Gate.*

NOTES ON MAGNOLIAS.

BY F. R. ELLIOTT.

IN my practice of landscape gardening during the past twelve years, I have planted out many dozens of magnolias. They have made the first season's growth apparently healthy. Some have continued a second summer, and a few of my planting ten years since yet remain; but the majority of them have died and their places supplied with some other variety of tree. I have queried why this should be so, because most of the varieties so planted were perfectly hardy, the trees perfectly healthy, and, as a rule, made the first season a healthy and abundant growth.

Now, in the practice of my profession, in making designs for planting grounds, with a knowledge of the beauty of flower and foliage possessed by the Magnolia family, I desire to introduce more or less of the varieties; but a second thought occurs, relative to their durability, and I frequently substitute some other tree, when I would have preferred a Magnolia.

Loudon advises planting only of pot plants, because of the delicate nature of the roots; but when a plant has taken well in the soil and made a healthy growth of one, two, or even three seasons before dying, I cannot see any special reason for preferring a pot-plant. As I have said, I have queried why, after a season or more of healthy growth, they should die, and have looked about me for the cause. We are taught that the Magnolia will only do well in sandy loam, or a light, well-drained soil, and with this view I have, when I could, arranged my planting of the Magnolia in such portions of the grounds as were of light, dry, sandy or gravelly nature. Now, when looking about among the best trees of Magnolia in gardens, I find one of *Soulangea* in a light, sandy loam that is twelve or more years old; blooms abundantly every year; is healthy and vigorous, but

while it is only in apparent light, sandy soil, a close inspection reveals that water percolates from springs through the soil underneath at about, say three feet depth.

Again, in grounds once possessed by myself, there are growing some very healthy specimens of *conspicua*, *tripetala*, etc., and the soil a poor, gravelly-clay loam, that, before being cleaned and opened to the sun, was termed wet. There is no underdrainage, and yet the trees do well.

Again, trees of *Glaucia* and *Macrophylla*, planted ten years since, in a barren, poor gravel, but resting on a bed once a swamp (for it is made ground by grading and filling with the gravel), and where water stands nearly the entire year round within eighteen inches of the surface, are growing healthy and vigorous. These observations, with some others of similar nature, together with the appearance of trees grown by Prof. J. P. Kirtland, by budding on the *Magnolia acuminata*, lead me to conclude that while the Magnolia may start and grow most readily in a light soil, yet, unless there is moisture reached by its roots during midsummer, its vitality is much impaired, and it is liable to die on approach of any extreme change of temperature.

The budding or grafting of *Soulangea conspicua*, *glauca*, &c., on the *acuminata*, our native wood tree, here commonly called cucumber tree, has been practised by Professor Kirtland, with complete success. In his grounds now stand, probably, the largest *Magnolia glauca* in the United States. It is grafted on the *acuminata*, and at a rough guess, is thirty feet high and about the same in diameter; it is yearly covered with bloom and ripens its seeds perfectly. Several of the *conspicua*, *soulangea*, *longiflora*, *purpurea*, &c., which budded on the *acuminata*, have made growths already double those of the same

varieties on their own roots. These items, connected with the facts that the *acuminata* is often found growing in our clay lands, even where before being cleared up, the appearance is as of a wet section of land, lead me to suggest to our growers of the

magnolia for sale—the working of them in the *acuminata* stock. It is well to say to buyers of the magnolias that they had better pay high prices for a plant budded as *acuminata* than to have a seedling as a gift.

THE BIRDS OF BRIGHTSIDE.

BY W. WAYBRIDGE, ESQ.

WHEN I came to live at Brightside, one thing struck me as peculiar: there was no bird songs, no music. The ten-acre lot, on the western side of which the buildings stand, was almost nude of trees, and the forests swept around at a respectable distance. The house had not been occupied, the land had not been tilled, since the commencement of the war.

I had been living in a village famous for its shade trees and its birds, and on coming to Brightside in the spring of 1865, my heart sank within me when I found there were no birds; no morning songs to welcome the new day; no woodland vespers to soften and to sweeten its decline. I regretted having signed the deed which made the little kingdom mine. There was no music!

It is true that now and then the scream of a blue jay, or the croaking of a crow, would greet the ear from the distant woodlands; a robin would, once in a while, come and sit upon a twig of a wild cherry tree, and sing a cheerful song to me; and a phoebe, solitary and alone, did return to her nest in the barn cellar, and, by her peculiar note, make deeper still the feeling of loneliness and of isolation which came over me. Save here and there a slender or discordant song, there was no music.

But I read again "Ten Acres Enough;" took heart; put in the plough, the spade, the hoe, the crop—peas, beans, melons, corn, hops, cabbages, cauliflowers, grapes, and strawberries. I set out trees around my house and barn, and along the road side

for some sixty rods or more. I filled my front yard with clambering vines and flowers. I spent the season—myself and son—in improving and beautifying the place. I put six of the ten acres into tilth; and thanks to my peat meadow, and to Him who made the benefaction, was enabled to send some things to market, and to keep the buckets in the buttery (excuse this last old-fashioned word, the alliteration would not come without it) full at home. And what do you think, Mr. Reader? Why, when the present spring opened, along with it came, as welcome visitors, I assure you, the merry, heart-inspiring birds. It would now do your heart good to hear them salute the morning by their gleeful songs; to hear them trolling out their melodies still, until the veil of evening is completely shut. A robin has built her nest in an old elm beside the road, and sings as if her breast were made of music; the bob-o-link sets up its frolicsome rigmarole in the meadow below; an oriole sings daily near my window; a bluebird has built its nest just beneath the handle of an old pump opposite, and now sits chirping on the top of it; a sparrow, indeed, has chosen a vine directly beside the most frequented door, for safety during incubation—we do not keep a cat—and what with the sweet song of the meadow lark, the notes of golden robin, cherry-bird, yellow-bird, woodpecker, flycatcher, king-bird, yellowhammer, and blue-jay, interblending with, now and then, in damp and quiet weather, a pleasant call of "more wet," from Bob White—*Perdix Virginiana*

—we have music enough, and better than from lute or sackbut, for the morning; and when the “evening shadows prevail,” the brown thrush—*turdus rufus*—most voluptuous of American vocalists, takes up its “amorous descant” from the topmost twig of yon tall birch tree; while the wood-thrush—*turdus mustelinus*—from the bosom of that clump of alders, charms me with its silvery cadences; and the whippoorwill winds up the day, and startles the dull ear of night by its weird-like and mysterious song.

Now, what has brought these birds to Brightside? Ploughing up the ground? But there was food enough for them before. What has called them around us? Our own music? We have been too busy to make music. What, then, has gathered them? The love of man? Yes, I believe it. Birds are social. They do not frequent the deep and silent forest. They love the habitations of men. They love the garden—its seeds, undoubtedly; but they also love the men that work in it. They have a kind of human as well as humanizing nature, and they sympathize with human nature. They build just as near to us as they dare to build; they follow us in our

journeys; they settle where we settle; they toil for us; they destroy myriads of insects that else would injure the productions of the garden; they sing sweet songs to us; they make Brightside still brighter, Paradise still nearer, and the steps to it still lighter.

Sitting underneath an old apple tree in his garden, late one summer evening, Mr. Webster entertained a group of eager listeners with his views of coming national events, when suddenly a robin broke forth into a song above the stateman’s head. He stopped and listened to its note, and then, as if it were an angel sent from God, he, rising, said, “Gentlemen, that robin always comes to me at night, and sings to me of my poor son! Let us retire.”

From out another sphere, these birds bring messages of love to the attentive soul. From the gardens of the Hesperides they come to soften toil, to waken praise; to lure us by their music, stealing through the flowers of such fair paradises as we, by the aid of your good HORTICULTURIST, manage to make below, to the music of the flowers of the resplendent Paradise above.

Brightside, near Billerica, Mass.

PULVERIZED CLAY AS A REMEDY FOR MILDEW ON THE GRAPE VINE.

BY VITICOLA.

IN the HORTICULTURIST for August there is an article by P. Lazaris of Athens (copied from the *Floral World*), in which dry clay or any pulverized substance is recommended as a remedy for mildew.

Have we any experience beyond that of Mr. Lazaris? His experiments are certainly very fair; but then we must remember that a few cases of cure will not establish the character of any medicine.

The proposition so confidently set forth is, that “any substance, dried and pulverized, which does not injure the foliage or the fruit of the vine, cures the disease of

‘oidium,’ with which it is affected. It is because of the same qualities that pulverized sulphur produces the same effect, and not as a specific, as is generally believed.”

Now we have in our mind a vine which was every year afflicted with mildew. It grew within six feet of a public road in a large city, and in dry weather it was always well powdered with pulverized road dust. But this dusting did not prevent the mildew. And we are aware of one or two instances in which vines were dusted with finely powdered gypsum or plaster without warding off the evil.

It is curious to observe the very opposite opinions which prevail in regard to certain subjects. While one man announces, as a new discovery, the use of powdered earth as a remedy for mildew, some of our older authors caution us against stirring the soil of the vineyards during dry weather, while the grapes are maturing, for fear of inducing disease by the dust which unavoidably settles on the vines.

We have now in progress a series of investigations concerning the action of sulphur on mildew. The subject is a difficult one, but the results promise to be interesting and important. Meantime, we would offer the following note quoted from Allen's "Practical Treatise on the Culture of the Grape," which goes to prove that sulphur acts as a specific poison to fungi aside from its mechanical action as a powder. In this case, as the reader will observe, the sul-

phur was not applied directly to the vine.

"Nathaniel Silsbee, Jr. Esq., informs me that in his grapery, which is a cold house, he covers the floor twice every summer, with sulphur, and recommends its application in the middle of the day; as, at that time part of it will rise and settle on the vine, but in such small particles, as to do no injury. He has found this efficient in preventing mildew."

In conclusion, we would suggest to the readers of the HORTICULTURIST that they give their experience on this subject.

Who has tried plaster or similar powders, and with what result?

Have vines growing near roads been found less liable to mildew than others?

An extensive series of replies to these questions might throw some light on the subject.

GRAPEVINE MILDEW.

BY HORTICOLA.

In the August number of the HORTICULTURIST, there is an article on the cure of the Oidium, by P. Lazaris, of Athens, in which he advises to dust the vines with dry clay instead of sulphur. He says he was led to the use of that substance by the fact his own observation had established, *that vines lying on the ground were never mildewed*. Although it might be difficult to comprehend the similarity of the condition of a vine lying on the ground, and of a vine dusted all over with powdered clay, yet this question is insignificant in the face of the fact, *that grapevines lying on the ground are, at least in this country, much more liable to be affected than those which are tied to poles or trellises*.

It is my custom never to tie up cuttings, from single or more eyes, during the first summer, being convinced that, by checking the upward tendency of the young vines, the root acquires much more strength. I

continue this treatment also during the second year, after old vines have been planted in their several places and pruned. There is no trace of mildew on any of my vines trained to stakes or trellises, for I apply sulphur so freely and frequently that all spores of it are destroyed as soon as they are formed. Not quite a week ago however, I was walking through my grounds with two friends, when we simultaneously noticed those light-colored spots produced by mildew on the leaves of a number of young Crevelings and other native varieties. They had proceeded from several young Yeddos. *There is no variety more subject to mildew than the Yeddo*. Now all the vines so affected are lying on the ground. One of the two gentlemen mentioned observed that it had been his belief that vines lying on the ground were exempt from mildew. He was as glad as he was sorry that his belief had been exploded. Many of the

readers of the HORTICULTURIST will, no doubt, have had the same experience; but, should it be desirable, I am ready to give the names of both of the gentlemen.

This shows that the premises of Mr. P. Lazaris are not founded on fact. As to his inferences, it may be interesting to make some remarks by stating what has been done by others in regard to road dust or powdered clay.

The readers of the HORTICULTURIST will permit me to premise the following statement:

Requested by the Hon. Isaac Newton, Commissioner of Agriculture, to write a treatise on the sulphuration of the grape-vine and its results, both in this country and Europe, I addressed a large number of letters to the most celebrated vine-growers in France and Germany, in order to obtain full information covering the whole subject. I am already in possession of material so ample and extensive, that I could easily fill many pages with it, though it is not complete yet, as several gentlemen addressed by me cannot make replies satisfactory to themselves before the next autumn. I will, therefore, not touch it at present, but reserve it for the treatise, to be printed in the agricultural part of the *Patent Office Report*. What I give here is extracted from various literary sources, easily accessible to all. It is not my intention to accumulate facts.

According to a communication of the *Prussian Correspondent* of the year 1857, dust from the turnpikes is as efficacious as sulphur in destroying mildew. Mr. Cres-

tien recommended, on the 28th of September, 1857, in the Academy of Sciences in Paris, the same very highly. He says sulphur covers and envelopes the oidium plants so entirely, that the air is excluded, and destroys in this way the oidium. As road dust performs that work better and more thoroughly than sulphur, it is much more preferable.

On the other hand, many experienced vine-growers assert that sulphur acts specifically upon the oidium by dissolving and destroying it. At all events, nothing is used in Europe but sulphur at present, so that even the French Government reduced, several years ago, the duties on it, so as to bring it within the reach even of the poorest vigneron. Road dust has had a chance in France and Germany, since 1857, to supersede sulphur, but it has not been able to accomplish it.

I am very far from impugning the veracity of Mr. P. Lazaris as to doubt the results of his experiments; but what applies to the dry air and serene sky of Corinth, may not apply to our excessive climates.— Oftentimes nearly absolute dryness of the air is suddenly followed by extreme humidity, intolerable heat by chilling winds.

As all my vines have repeatedly been sulphurated, I cannot make comparative experiments. Such of the readers of the HORTICULTURIST as may have the opportunity to try clay, will have a claim on the thanks of the vine growing community if they will communicate the results of their operations.

NOTES ON THE AUGUST NUMBER.

VARIETIES OF STRAWBERRIES.—A plain, practical article, descriptive of some of our leading and most popular sorts. The writer has evidently examined his fruits, and doubtless recorded correctly as they appeared to him; but, to make his record of more value, he should have given the soil

in which the several sorts succeeded best. It is now, I believe, pretty generally conceded that a variety will succeed finely in one character of soil, while if placed in a different one, although within a short distance, it will prove almost worthless. Climate, also, is said to affect the strawberry

making some varieties a local rather than a general sort. However true this may be, I cannot of my own knowledge affirm; but I well remember, some years since, a long pro and con about the Black Prince—a variety that in some localities was proved of the highest excellence, while in others it was unworthy growing.

Buist's Prize is another, and I think not unlikely Jenny Lind another, as some growers praise it highly, while with others it is unproductive. Our Southern friends will find the strawberry question a mixed one with them, their climate being so unlike that of the North and Middle States.

In connection, I notice in the report of the Wallingford (Conn.) Community they still hold to the Wilson as their most profitable sort for market.

RURAL ARCHITECTURE, No. 16.—I like this very much. It gives one an idea of home comfort with its porch and veranda; while in its architectural elevation there is an air of refinement and taste, without display of tinsel ornamentation.

NORTON'S VIRGINIA GRAPE.—Mr. Hermann does not say too much in praise of this grape where it can be successfully ripened. It makes a wine heavier than the best clarets, and more nearly to port than any other with which I am acquainted. As Mr. H. says, however, it seems to do better in Missouri than in Ohio, although I have seen it on the south shore of Lake Erie growing and ripening its fruit equally as well as at Hermann. To those about to engage in vine-growing in our Southern States, especially in Tennessee, it will prove of the greatest value.

NEW STRAWBERRIES.—This, like the first article, shows the practical observer, and gives us a truthful statement of the varieties under the writer's treatment. While conceding that the care given was no more than, perhaps, should have been, we must, however be inclined to think it is more than strawberry growers for profit can afford; and, while the varieties may be desirable to the amateur, I venture to predict that not one among those carefully described will be

found five years hence in a dozen gardens in the United States.

DISEASE OF THE VINE, AND ITS REMEDY.

—The writer seems to have found what, to himself, appears a certain cure for the diseases of the grape-vine. I hope it may be true; for, although in vineyard culture such powdering three or more times is attended with considerable expense, it is yet better than to lose the whole crop. I confess, however, to be a little of an unbeliever, and to think that the experiments require repeating. If oidium is a disease of the atmosphere, and affecting the vine without regard to soil or vigor of the vine, then a change in the atmosphere might have checked the progress of the disease rather than the use of the powdered clay. If, again, we grant oidium to be a disease of the atmosphere, and attacking only vines in a peculiar condition of vigor, or rather want of vigor, as the ague does mankind, then have we not to go farther back to get our remedy.

PLAN FOR LAYING-OUT FIVE ACRES FOR A SUBURBAN VILLA.—On the whole, a good plan. I should, however, object to so much roadway in front, and should endeavor to mass my trees nearer the approach-gate, with the same view apparent here, viz., to shut it from the house, and arrange for but one roadway, thus giving me more of apparent extent inside, and liberty to present a more park-like character.

SOUTHWARD, HO! FRUIT CULTURE IN THE UNITED STATES.—The writer truly says, "a large portion of the Southern States is admirably adapted to the culture of fruits;" and, where perfect quiet and order, with less of bowie-knife rule, prevails, our Northern men will doubtless seek and improve the portions of the Southern States best suited to the products that may be found profitable. We Northerners are a go-ahead people. We are ambitious to gain money as well as reputation, but we love the comforts of a quiet home, and a feeling that we can visit from neighbor to neighbor without having to carry a revolver for bodily protection.

That sections of the Southern States are admirably adapted to fruit culture, as before said, is true, but let no man think that fruit-growing is there free from care, or that its returns pecuniarily are any more ready or certain than in our Northern States. Extremes are even greater in the Southern than in the Northern States.—Drought often prevails, as is the case this year, just at the very point when rain is most needed to swell and perfect the fruit. Long-continued rains are more prevalent than at the North, and no man accustomed to the North can labor at the South with anything like the same spirit and ease of the physical frame.

INSIDE GRAPE BORDERS.—“Fox Meadow,” as usual, writes with a racy pen, and I have read this article with so much satisfaction as to wish I could step in and see his inside borders. Like him, I have faith in inside borders, but only for those who know how to treat the vine, and so knowing, perform the labor.

E. W. BULL ON GRAPE CULTURE—No. 2.—In this, there are some, to me, crude notions, one of which is the advice never to prune a vine at time of planting; another is the system of training. It may do for Mr. Bull, but would never do for me.—There is, in the advice not to shorten in the grape, a clashing of physiology with the practice; and, in the mode of pruning, an extra amount of labor, not compensated with fruit as compared with the simple renewal practice advised by Husmann.

I WILL say to Mr. Merrick that it is my impression his vines will be less subject to injury from late spring frosts, if he will leave them to lay upon the ground, even until after the fruit has set. I am surprised at the comments on “My Vineyard at Lake View.” As Mr. Merrick says, the author *professes* to give actual experience, but how do we know it is anything but fiction. Trot out the author, then we will go and see his place. and, seeing, believe or otherwise in the truth of his book.

CORRESPONDENCE.—With your permission, Mr. Editor, I step over among your

correspondents, to ask of Mr. Phoenix an account of the Georgia Mammoth Strawberry.

P. D. O.—My good critic, on a criticism, I have little doubt but that our views of the style of architecture, as adapted to natural surroundings, would harmonize. At any rate, I am glad to have drawn you out in the remarks you have made. My object in criticising the steep roofs and gables was more to check their undue sway and position everywhere, rather than a thought of discountenancing the style. You ask if the praise by Downing, and other leading architects, of the gothic rural cottage of England—their appreciation of the old cathedrals with their peaks and arches—was a false taste? I reply certainly not. There is a grandeur and beauty in gothic architecture possessed by no other style; and when the style is fully carried out with depth and finish, and the character of the trees surrounding such a building, if a private residence, adapted in their character of growth and foliage to harmonize with it, the section may be a level or not, and the building in good taste.

I cannot, however, believe Mr. Downing, were he once again with us, would assent to the tinsel style of gothic architecture in inch pine, painted white, and built on lots twenty-five feet by one hundred feet.

It is this reducing of a lofty order to pigmy ideas that I would particularly complain of.

Again, as our cheap houses—those costing \$1,500 to \$2,000—are mostly constructed with a view to obtain rooms, &c., at a small expense, why should not our architects occasionally introduce more of the Italian or the Tuscan styles? They furnish room, shade, balconies and verandas, to suit the wants to shield from storm and sun; and their cost of construction, compared with room obtained, is less in proportion.

But enough; my object, I think, has sufficiently been stated, and I leave the subject for, perhaps, some future time.

REUBEN.

BOX OR BASKET LAYERS.—THEIR TRUE VALUE AND PROPER USE.

BY VITICOLA.

WE have observed some recent notes in the *HORTICULTURIST* strongly condemning basket layers as unmitigated humbugs. Anything may be a humbug when pushed to extremes, and we freely admit that the impossible hopes that have been held out to the public as baits, to induce them to purchase freely of basket layers, do invest the subject with some of the characteristics of a genuine humbug. For it is possible that while all the promises made about basket layers may be "kept to our ears; it is tolerably certain that many of them will be broken to our hope." It may be true that such layers will "fruit next season." Ought they to be fruited next season? and if fruited, will they bear better than good strong plants transplanted in the ordinary way.

At the State fair in Elmira a dozen years ago a grape grower exhibited a plant growing in a tub or pail and bearing several bunches of very fine fruit. If we remember right the variety was Isabella. Now this was a layer, and a layer fruited the same season it was made. As an experiment it was very pretty. As an illustration of grape-growing it was worthless. Plants have been grown in pots, and if this was described as "grapes grown in a tub," it was a verbal truth and an actual lie. So that it was either a very pretty experiment, or an actual falsehood, according to circumstances.

Lest, however, the animalers which have been so freely lavished upon them and their producers should be applied to basket layers under *all circumstances*, we take the liberty of saying a word or two in their favor.

In his account of the Thomery system Du Breuil says of basket layers: "This is undoubtedly the best mode of propagation, and is that which is preferred at Thomery. Unhappily, on account of the expense at-

tending the transportation of basket layers, the cultivator is often compelled to use the unprotected layers, or *chevelées*."

But we do not base our conclusions wholly upon either theory or the "authors." We ourselves have had some experience both with basket layers and common layers, although we never bought one of the former. Before giving the results, however, let us consider what we have a right to expect from basket layers. Common sense will teach us that there is a limit to the advantages to be desired from this mode of propagation; a little consideration will show us just where this limit must in the nature of things lie; and if any vine seller claims that basket layers will do more, then we will do well to doubt his assertions, or at least doubt *our* ability to equal *his* extraordinary results.

Did you ever lay a stout branch of a vine, laying it down for some length deeply (that is to say ten to twelve inches) below the surface, keeping it moist during summer, and cutting it free from the parent plant in the fall? If you have made such a layer and taken care of it next year, you are doubtless aware that a plant so produced is capable of bearing a crop of fruit next season, provided it is not moved from the place where it layered. It cannot ripen a very large crop, because the roots which are produced by layers during the first season never ripen as well as those upon plants which have been growing since spring. But it will have a fair proportion of roots, and if not fruited at all, it is capable of making an exceedingly vigorous plant during the next season. If then you have ever tried this, you have a standard which it is in vain for you ever to hope to surpass by any such contrivances as box or basket layers. This is too obvious to require remark. No one would venture to assert that merely removing such a vine,

no matter how it was done, would add to its vigor or hasten its progress. Now even the most inexperienced will have some idea of the extent to which the roots of such a layer as we have described will extend. Are you prepared, "regardless of expense," to remove all the earth within that space? If so, it is probable that the vine in its new location will bear *nearly* as well as if it had not been moved. But if you live at a distance from the original vine, you will find that the freight will cost more than the vine is worth. We have under ordinary favorable circumstances layered a branch from a bearing vine, and had it make a strong plant next season—a plant which, during the following year, bore a full crop. To avoid mistake, let us say that if in this year of our Lord 1866 you make such a layer, it will, during 1867, make wood enough to cover a trellis eight feet long and three feet high, and during 1868 it will bear a full crop over that extent, provided it is allowed to remain where it is layered. We base this statement upon our own *average* experience under *ordinary* garden culture. No basket layer under the same circumstances could have done *more*.

But the removal of such a layer would be a formidable undertaking. Take such basket layers as are figured by Du Breuil—they are about equal to those generally offered for sale—where but a few joints are laid down and the amount of earth does not exceed from one-half to one bushel, and the idea of either fruiting them, or building up the superstructure of the future plant upon any such basis, during the first season, would be preposterous. You may fruit such a vine, but every bunch will cost you ten times its value, if the vine is worth anything at all.

But, when properly managed, basket layers may be made to do much better than common layers, or "naked layers," as they are called, of the same size. A good shoot from an Isabella vine, layered by the end of May in an old half-bushel basket, separated from the parent plant by

the middle of August, and removed on the 5th of September to its permanent location, ripened its wood so perfectly that two arms of four feet each (which had been grown while the layer was attached to the parent vine) were laid in at the winter pruning. Next year these arms threw up twelve vigorous shoots, all of which would have borne fruit if allowed to do so. But the fruit blossoms were all removed as soon as they showed themselves, and the second season each alternate shoot bore a full crop of grapes without injury to the vine.

We have never been able to attain the same success with naked layers, and we therefore regard the use of baskets as capable of saving fully one year.

But in all our experiments we have found that the great advantage to be derived from the use of baskets is the facility which it gives us of transplanting the young vines before they have done growing. A plant layered by the end of May will begin to throw out roots early in June; by the first of August these roots will have filled a large basket; if now, by the middle of August, the layer be placed upon its own resources, the roots and wood will ripen thoroughly. Remove the plant by the first of September to its final resting place, and the roots will not only heal up all their injuries, but will send out multitudes of new fibres, as we have proved by careful observation, and your vine at the close of the season is equal to a good, healthy plant that had been set out in the previous spring and had grown without check the whole season. *And it is not a whit better.* Would you dare to fruit a common plant the second season after setting out?

But if the plant should be transported to a distance and the roots next outside of the box or basket, should get dry, the plant is worse than a well-transplanted common vine of the *following spring*.

So, too, if the transplanting be delayed until late in the fall, or till the following spring, we cannot see how basket layers

would prove better than well-transplanted vines removed in the ordinary manner. Indeed, we would prefer the latter, even aside from convenience and cheapness. It is well known to every plant grower that in setting out vines that have been grown in pots and boxes, it is better to shake off all the soil from the roots and spread them out in their new location, than merely to transfer the ball to the border, unless the operation has to be performed during the growing season. It is true that in baskets or boxes made of slats, the roots are not so much confined as they are in pots or tight boxes. Still this would not alter our preference.

To us it seems that the great advantage to be derived from basket layers lies in the fact that they can be transplanted so early in the fall as to secure what is virtually equivalent to an extra year's growth. This, and this alone, confers upon them their superiority to common layers or cuttings. That the use of the basket does enable us to secure this great advantage, we know, for *we have tried it*. Would it not be well, then, for those who desire to *extend* their vine-

yards to give some attention to this subject?

Instead of setting out plants in the spring, make a number of basket layers in May or early in June. During the summer the land to be occupied by the proposed extension may be used for any valuable crop that can be removed by the first of September. At that time the ground can be cultivated and brought into the very best condition, so that the plants might be placed in soil mellow and friable to the last degree.

If after being planted they were thoroughly mulched, they would go on and ripen both wood and roots, and become so firmly established that, next spring, they could not fail to make a vigorous growth. And we are perfectly satisfied that the grape grower who adopts this plan in his vineyard will form an opinion of basket layers very different from that of the amateur who, in November, receives by express from a distance of a hundred miles or more a box or a basket layer at a cost of five or ten dollars.

GLEANINGS—CONTINUED.

[IX.]

IN speaking of the greatest depths within the earth reached by human labor, we must recollect that there is a difference between the *absolute depth* (that is to say, the depth below the earth's surface at that point), and the *relative depth* (or that beneath the level of the sea). The greatest relative depth that man has hitherto reached is probably the bore of the salt works at Minden, in Prussia: in June 1844, it was 1,993 feet, the absolute depth being 2,231 feet. The temperature of the water at the bottom was 91° Fahrenheit, which assuming the mean temperature of the air at 49° 3', gives an increase of temperature of 1° for every 54 feet. The absolute depth of the artesian well of Grenelle, near Paris,

is only 1,795 feet. It is said that the "fire-springs" of the Chinese, which are sunk to obtain carburetted hydrogen gas for salt boiling, far exceed our artesian wells in depth, some of them are more than 2,000 feet in depth, and one is mentioned by Humboldt which had a depth of 3,197 feet.

The relative depth reached at Mount Abassi, in Tuscany, amounts to only 1,253 feet. The boring at the salt works near Minden, is probably of about the same relative depth as the coal-mine at Apendale, in Staffordshire, where men work 725 yards below the surface of the earth. The relative depth of the Monk-wearmouth mine, near Newcastle, England is only 1,496 feet. The works of greatest absolute depth that have ever been formed, are for the

most part situated in such elevated plains or valleys, that they either do not descend so low as the level of the sea, or at most reach very little below it. Thus the Eselschacht, in Bohemia, a mine which cannot now be worked, had the enormous absolute depth of 3,778 feet.

X.

According to tolerably accordant experiments in artesian wells, mines, &c., it has been shown that the heat increases on an average about 1° for every $54\frac{1}{2}$ feet. The two points on the earth lying at a small vertical distance from each other, whose annual mean temperatures are most accurately known, are probably at the spot on which the Paris Observatory stands, and the Catacombs beneath it. The mean temperature of the former is $51^{\circ} 5'$, and of the latter $53^{\circ} 3'$, the difference being $1^{\circ} 8'$ for 92 feet, or 1° for 51.77 feet.

If this increase of temperature can be reduced to arithmetical relations, it will follow that a stratum of granite would be in a state of fusion at a depth of about 21 geographical miles, or between four or five times the elevation of the highest summit of the Himalaya.

XI.

It must be remembered that the inorganic crust of the earth contains within it the same elements that enter into the structure of animal and vegetable organs. The physical cosmography would therefore be incomplete if it were to omit a consideration of these forces, and of the substances which enter into solid and fluid combinations in organic tissues, under conditions which from our ignorance of their actual nature, we designate by the vague term of *vital forces*, and group into various systems, in accordance with more or less perfectly conceived analogies. The natural tendency of the human mind involuntarily prompts us to follow the physical phenom-

ena of the earth, through all their varied series, until we reach the final stage of the evolution of vegetable forms, and the self-determining powers of motion in animal organisms.

XII.

During the winter season plants are provided by nature with a sort of winter quarters, which secure them from the effects of cold. Those called *herbaceous*, which die down to the root every autumn, are now safely concealed under ground, preparing their new shoots to burst forth when the earth is softened in spring. Shrubs and trees, which are exposed to the open air, have all their soft and tender parts closely wrapt up in buds, which by their firmness resist all the power of frost; the larger kinds of buds, and those which are almost ready to expand, are further guarded by a covering of resin or gum, such as the horse-chestnut, the sycamore, and the balm of Gilead. The external covering, however, and the closeness of their internal texture, are of themselves by no means adequate to resist the intense cold of a winter's night; a bud, detached from its stem, enclosed in glass, and thus protected from all access of external air, if suspended from a tree during a sharp frost, will be entirely penetrated, and its parts deranged by the cold, while the buds on the same tree will not have sustained the slightest injury. We must therefore attribute to the living principle in vegetables, as well as in animals, the power of resisting cold to a very considerable degree. In animals we know this power is generated from the decomposition of air by means of the lungs and disengagement of heat. How vegetables acquire this property remains for future observation to discover. If one of these buds be carefully opened, it is found to consist of young leaves rolled together, within which are even all the blossoms in miniature that are afterwards to adorn the spring.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

WE have received from Mr. George Husmann, of Hermann, Missouri, the prospectus of the Bluffton Wine Company of Central Missouri.

The objects of the Company are:

FIRST—The purchase of 2,000 to 3,000 acres of the most desirable grape land surrounding Bluffton Landing. A portion of this land may in time, at the discretion of the Company, be sold to suitable persons who may wish to locate upon it for grape-growing or other purpose. The principal part, however, is designed to be leased for a term of ten years, in tracts of about twenty acres, to persons who, without having the means to purchase, have the disposition, necessary intelligence and industry for engaging in grape-growing. The leases to be made on terms similar to those already established by Mr. Husmann. This, the grape-growing proper, to be under the supervision of a competent manager, who is able to assist the tenants with advice and instruction when they need it. The terms of Mr. Husmann's leases are briefly as follows:—To furnish the tenant a small house to live in, the vines for planting, the wire for trellis if used, about \$150 for his support the first year, and give him one-half of the produce. This plan has been tried for several years by Mr. Husmann, and found to be very profitable and satisfactory to both parties.

SECOND—Under a competent manager, to propagate grapes largely upon the deep, rich, sandy loam soils to be found on some of the creek bottoms belonging to the Company. It is well known by trial that a very superior quality of plants can be produced with great facility upon these soils. In this way the surplus grape-wood produced can be used to good advantage. An im-

mense amount of plants may be thus grown, and the public furnished with vines at a lower rate, and of better quality than can be obtained elsewhere.

THIRD—Build a cellar or cellars of sufficient capacity to hold the wine which can be made from all the grapes grown in the vicinity, purchasing the shares of the lessees at a fair value, and also the products of other vineyards in the vicinity. The advantage of making wine on a large scale, and in large and suitable cellars is well known. Add to this the peculiar advantage of the soil and location, and it is confidently believed that wine will be made at Bluffton infinitely superior in quality to any heretofore made in this country East of the Rocky Mountains. This department also to be under the supervision of a competent person, who understands the management of still and sparkling wines, distilling the husks and lees into brandy, &c.

FOURTH—To establish a depot for sales in St. Louis.

OFFICERS OF THE COMPANY.

GEORGE HUSMANN, *President*.

Dr. PHILIP WEIGEL, *Vice-President*.

Dr. L. D. MORSE, *Secretary*.

Hon. ISIDOR BUSH, *Treasurer*.

We are glad to see an enterprize of this sort put in motion, and by parties of such well-known standing. Mr. Husmann has already demonstrated that its success is certain.

SEEDLING GRAPE-VINES, magnolias, ornamental shrubs, &c., should be protected the first winter. Many a plant is destroyed the first winter that, had it been then protected, would have afterwards proved hardy.

LILIES—HYBRIDIZATION.—The Japan lilies, *speciosum* and varieties, have now been for years among the gems of our flower-gardens. More recently the *auratum* was introduced, and, with its immense size of flower, and beautiful gold band or stripe in the centre of the petals, has caused some amount of excitement, and ready sale for the bulbs at high prices. But the end is yet to come; and, from what has been told us, and from what we have read, the Messrs. Hovey, of Boston, have, by hybridizing the variety of Japan lily called *melpomene* with the *auratum*, produced and flowered a variety surpassing the *auratum* in splendor, and having the form of flower and habit of foliage of *speciosum*. This, of course, inaugurates the practice now soon, we doubt not, to be followed by amateur florists, until a few years, we trust, will see our gardens blooming with varieties of these lilies, as much surpassing in beauty the present as the present does that of the old tiger lily. By the by, we suggest to operators the tiger lily as a parent to work upon, to retain hardihood, and bring out colors.

BULBS that are yearly moved and flowered in the open ground rarely seed; but, if left in the same place three or more years, without having been taken up, the main or centre flower stalk will generally produce seed. Plants, however, that are grown in pots in the house nearly always produce seed, hence such plants are advised for operating on.

DWARF EVERGREENS, planted in tubs or boxes where, during the past summer, verbenas, geraniums, &c., have freely bloomed, help to make a cheerful and pleasing character to a portion of the garden or lawn that otherwise would present a barren and rather unsightly feature. The evergreens, if not wanted in spring to plant out elsewhere, may be kept in the tubs in the back yard, or massed in around and among groups of stately trees.

GATHERING FRUIT.—Pears and apples, usually termed fall varieties, should be gathered a week or ten days before they would naturally drop. Pick them by hand; lay them in barrels or boxes, enclosing them tight; and place in a cool but dry room or cellar. So cared for, they will often keep till near or quite mid-winter.

Winter varieties, especially long-keeping sorts, should be left on the trees as long as the weather will permit. Some claim that, as the ripening process changes the starch into sugar, therefore, in order to keep well, the fruit should be gathered before any such change has taken place; in other words, that the fruit should be gathered two or three weeks before it is commonly termed ripe.

We may err in our judgment; but many years of observation convinces us that our best fruits in winter and spring have been those that we permitted to hang longest on the tree.

THE KITTATINNY BLACKBERRY.—This blackberry, it seems, called the members of the American Institute Farmers' Club to an examination of its merits in August last. Their report places it as promising to be more desirable, both for market and family use, than any other variety. It is stated to be as large as Lawton; to ripen earlier, and continue longer, and to bear equally as well, if not better; the canes perfectly hardy, and the fruit sweet and high-flavored. It originated in the woods near the Kittatinny Mountains, in Warren County, N.J.

HYACINTHS, for early blooming in the house, should be potted this month.

STRAWBERRY BEDS should be carefully looked over, and the weeds thoroughly eradicated. If not already mulched, do not delay attending to it. Our southern growers will find this a good month to form new beds.

As soon as the leaves drop, prune outdoor grape-vines.

CLETHRA.—Among our shrubs there are, to our vein, none more worthy attention than the clethra. Common as it is in parts of New England, and so on toward the Continent, it is rarely found in our gardens; and yet, during the month of August, there is no shrub whose spikes of flowers are more beautiful or more fragrant. It is perfectly hardy, and should be in all grounds.

THIS AND THAT.—Our friendly contemporary, the *Gardener's Monthly*, in its August number, takes us to task for crediting it with the transactions of the Fruit Growers' Society of Eastern Pennsylvania; and, at same time, rather intimates that we had intention to attack its uttered remarks relative to the duration of the pear on quince stocks.

Now, we had no intention to credit incorrectly; nor do we see that crediting to the *Monthly* or otherwise in this matter is of any import relative to the subject in hand.

Again, we wrote our item without being "put up to it," but simply making a record of what appeared as the sayings of a fruit-grower. We had no intention either to do injustice to Mr. Crucknell, but gave the record as we understood the reading to mean. The report in the *Monthly*, it seems, reads that Mr. Crucknell "was opposed to quince stocks, from their making the tree so short-lived, not lasting longer than twelve years." This we qualified by saying "about twelve years." Now, Mr. C. says that his remark was, that "the pear or quince, as a general rule, could not be relied upon to bear and ripen a profitable crop of fruit after attaining the age of about twelve years." To this we have now only to say that, in our knowledge, the best of crops have been produced on dwarf pear trees much more than twelve years old.—Our own most productive and healthy dwarfs are, this year, from sixteen to twenty years of age.

We have no special interest to advocate in the pear or quince; and, were we living

near Philadelphia, do not think we should choose it as a stock; but the combined knowledge of the growers in various sections, as reported, shows the pear to be, when grown on quince, very valuable in certain localities and soils—of the latter, clay seems to have preference.

INTRODUCTION OF THE ENGLISH SPARROW WEST.—On Staten Island, and about Lewellyn Park, in New Jersey, the English sparrow has been introduced. The result of this introduction has been that anticipated, viz.—a destruction of great numbers of insects injurious to our shade and fruit trees. As it will take years for these birds to reach our Western States, where fruit-growing is a feature of business, and where shade trees, as here, are part and parcel of every gentleman's home, we suggest to such gentlemen readers of our magazine the expenditure by them of a small sum in importing and introducing the sparrow. Gentlemen with incomes varying from \$30,000 to \$180,000 a-year, can certainly afford the paltry sum of twenty-five or fifty dollars toward the introduction of a bird, whose labors will keep our shade trees from defoliation, and our fruits less injured by insects.

Let any gentlemen, of city or town—club, if they will, or individually—do this act of introducing the sparrow, and their names will be held in reverence for years, as men who sought not their own only, but the public good.

GRAPE CUTTINGS, made as soon as the foliage of the vine drops, and planted out in well-prepared land, will start early in the spring, and make a stronger and better growth than when made during winter and planted out in the spring.

MOUNT LEBANON GRAPE.—Two years since, Mr. Bacon, of Richmond, Mass., made notice in this journal of a grape, under the above name, that ripened its fruit in August, and promised to be valuable. Will Mr. Bacon please tell us more about it?

BRILL'S EARLY CORN.—Of the various sorts of sweet corn, we have to give credit to Brill's Early, as fully sustaining its reputation. We had our seed of Messrs. Henderson & Fleming, and planted of it same day and in same soil with other varieties of sweet corn, and with Early Jefferson. We gathered of Brill's at same time as of Jefferson, and a week earlier than any other of the sweet varieties.

THE CHIHUAHUA TOMATO, in our grounds this year, has proved one of the largest in size; but, as it is very uneven and late in ripening, we do not esteem it.

ROSES and other plants, taken up and replanted this month, should, at the time, be placed in a frame or the house, and shaded from the sun until fully established, say two weeks or more.

BUDED TREES should be carefully looked over this month, and examined that no strings be left to cut and destroy them.

If young peach stocks have grown too strong, and there is fear of them breaking off, take the hedge shears and go through them, cutting freely the side limbs, and shortening back the green part of the top wood.

CELERY.—If your beds of celery have not been regularly earthed up, then get some common round draining tile, and draw each stem of celery through the tile, leaving to stand on end. It will bleach finely in this manner, and continue to grow more freely than when bleached by drawing the earth up around it.

PLANTS THAT ARE TO BE HEELED IN should have a dry place, where the rains will run off freely, and, if possible, where they may be shaded from sun after ten or eleven o'clock of the day.

PURCHASING TREES IN THE FALL.—A correspondent enquires for our opinion relative to the purchasing of his trees in the fall. He says his ground will not be ready for planting until spring, and that he is a long distance from any nursery. We advise all tree planters whether near or far from a nursery, to purchase their fruit and ornamental trees, except evergreen, in the fall. If the ground is not ready for planting before first of winter sets in, then select a dry place, if possible, shaded from the sun, and heel them in carefully. There are often times in winter when planting out may be done to great advantage; and, by having the trees on hand, the work can be performed leisurely and carefully.

CAUSE GRAPE ROT.—The Lake Shore Grape-Growers' Association made an excursion trip to Kelley's and other Lake Erie Islands, in August, and at same time held meetings for discussion relative to rot and mildew. We find, from published reports of their sayings, that the cause of disease in the grape, rot, &c., is ascribed in great measure to permitting the vines to overbear, and thus reduce their vitality and ability to endure extreme changes of temperature. To this, and severe summer pruning, if we recollect aright, Mr. F. R. Elliott, of Cleveland, ascribed the cause, in a communication to the *Ohio Farmer* last year. Summer pruning, as a rule, we learn, is now pretty generally abandoned on the islands. May not this be an error? We incline to the practice of summer pruning, but with a knowledge of the object, and not the heretofore blind practice of following old dogmas.

LARGE GRAPE LEAF.—A friend, visiting Professor J. P. Kirtland the past summer, measured a leaf of the Coleman's white grapevine, the dimensions of which were eighteen by fourteen inches. This grape, by the by, is entirely distinct from Cuyahoga, but perhaps not as good.

Messrs. EDITORS:

I should like to say a word in reply to "Reuben's" pleasant and suggestive criticism in the August number. He seems disposed to doubt the profits reported from the Concord, and says we should not reckon from one vine, &c. This is very true; and I, therefore remind him that Mr. Bull's results are obtained from a vineyard of 20,000 vines; that one of the other gentlemen whom I consulted has six acres in vineyard; and that, in Middlesex County, Mass., alone, there are fifty-three acres of cultivated grapes, not counting small lots. So the matter has been tried on a fair scale.

Mr. Bull's trifle of compost is necessary to bring about a connection the first year between the vines and the wretched soil in which, when once established, they flourish, and is a mere nothing in point of expense compared to the trenching and manuring still so obstinately insisted on by the books.

In regard to the Iona, all I can say is, that I am willing to wait a little, and to refer my want of success with it, and the failure of my friends, to the contemptibly wretched vines thus far sent out from headquarters and elsewhere, at most exorbitant prices.

As we get vines that do not require four or five years coaxing to get one poor bunch, our opinion may be modified.

At Salem, Mass., this year, I saw the Adirondac, purple, sweet, and three-quarters ripe, on the 17th of August, in a not very favorable location.

J. M. MERRICK, Jr.

THE ESSENTIAL OILS VERSUS MILDEW.—

The article in the September number of the *HORTICULTURIST* by Viticola is both interesting and suggestive, and should encourage a careful series of experiments, based upon M. Nubert's recipe against mildew. Certainly, it would be unwise to reject the deliberate recommendation of this careful and skillful cultivator (who is also

reputed to be a scientific chemist) without mature consideration or practical testing. The statements of Viticola, in respect to the fatal effects of essential oils upon most plants of a fungoid character, are also to be accepted with confidence.

And yet, considering the proportions of the recipe, and the manner of its use, I must still own to a good deal of incredulity as to its complete power to control mildew.

Consider first the proportions which are thus given:—Salt, $8\frac{1}{2}$ ounces; saltpetre, 4 ounces; water, 36 ounces; oil of lavender, 10 drops; oil of rosemary, 10 drops. "Take one part of the solution, and from one hundred to one hundred and twenty parts of water." There is an ambiguity in the use of the word part; but, however its use may be decided the overwhelming preponderance of water is manifest.

"Now, I believe the science of homœopathy, and its wholesome influence upon general medical practice are entitled to consideration. But I submit that, when the above solution is recommended, not for direct contact with disease, but as a wash to be applied to the trellis and cane of the vine, in the open air, before the leaves appear, and months before there are any signs of mildew, it requires a good deal of faith to believe there can be such *continued* virtue in such small quantities of *volatile* oils, or even in the salt and saltpetre. If the solution were applied at the incipency, or just prior to the development of disease, and in connection with sulphur and lime, we should have good reason to expect favorable results, though the quantity of salts and of oils is exceedingly small. But I would ask Viticola if it is conceivable that so small a quantity of these volatile oils, when applied in spring, can have any perceptible effect upon mildew in August—the worst month for its ravages? I agree with Viticola in hoping for good results from the recipe of M. Nubert, and I thank him for indicating that my previous criticism was too sweeping. Still, I think the proportions of the recipe, and especially the time

of application, will be greatly modified by trial. In this connection, I would ask if any vine-growers have noticed any immunity from mildew to vines trained around red cedar posts? I have thought there was a perceptible difference in favor of vines on cedar posts. We might expect this result, for the aroma from the posts is known to be antiseptic, and it is quite powerful when the posts are new.

Thanks to Viticola for correcting an inaccuracy of expression. Sulphur dusted upon the vines volatilizes slowly. In the process does it not combine with oxygen, and form sulphurous gas? I had supposed so, but have no authority or practical test.

W. C. STRONG.

and mildew on grapevines, an eminently-paying application. Year by year, some of our best fruits are black-balled in convention, because found scabby or cracked, but who proposes better ones in their stead? Or who faithfully combats their maladies, as he would on live stock, for instance?

We do not yet seem half rid of the old notion that a fruit tree must do all without care or aid. Do pears blight—"no use; can't raise 'em." Does a White Doyenne crack badly, reject it as an "outcast intolerable to sight." Seriously, can't we do better? Who will mind this for next year?

F. K. PHOENIX.

Bloomington, Ill., Sept. 13, 1866.

Messrs. WOODWARD:

A neighbor amateur has this year grown about a bushel of most delicious Imperial Gage plums on one tree, passed over to him some three years since by a brother, who said "No use for him to try to grow plums." After it was planted out one year, the family woodpile was corded up under and about it; and after the fruit had set, so long as any fear of curculio, a plentiful shower of air-slacked lime dust was scattered over the top every week or twice a week. Last year it bore a peck; this year a bushel or so—and here you have the whole story.

The writer is a profound believer in the efficacy of a similar course of treatment, so far as dusting with lime &c., not merely for curculio, but for the *whole herd of insects, mildew and fungi generally*. I yet believe this mode of throwing dust in trees will force our enemies to yield, if it did not the boy in the old story who was up in the apple tree. So far as large trees are concerned, and the cost of material, either lime, ashes, plaster, or sulphur, are entirely within reach and reason, and will be found against cracking on pears, scab on White Winter Pearmain and other choice apples,

BOOKS BY MAIL.—We supply from this office all books and publications on Architecture, Agriculture and Horticulture, and mail them free of postage to all parts of the country. In addition, we execute orders for the purchase and mailing of all miscellaneous books, &c. Order any book published, through us, and it will be promptly sent at the lowest price.

ADVERTISING COLUMNS.—We call the attention of our readers to our advertising columns this month. It will pay to look through them carefully. Many new names will be found, and we believe all will deal fairly.

Each year shows an increasing prosperity in the Nursery Trade, and those who grow good plants, transact their business promptly, and advertise liberally, are those who meet with the greatest success.

So far as Grape Vines are concerned, we would advise our readers to order early.—The stock in the whole country is not large. We believe the demand will not be met, and that later in the season prices must advance very considerably.

THE HORTICULTURIST.

VOL. XXI.....NOVEMBER, 1866.....NO. CXXLV.

WITHIN DOORS.

It is not alone to the outward embellishment of the country home, that art and taste should be directed. The influence of these should be shown as well in its internal arrangement and adornment, and that too, in a way to conduce to the welfare and happiness of the family, and indirectly to promote that genial, unrestrained sociability which should ever characterize country life. To the full accomplishment of this, our rural communities, possessed as they are, of ample means, need only to have their good sense and judgment properly directed. Towards this end but little has as yet been said or done, while, on the contrary, much thought has been given to rural embellishment in the usual acceptation of the term.

How can we hope to effect that which is so much to be desired? How can we best make known the necessary suggestions to those who might profit by them? We can have no better means than those which the pages of the HORTICULTURIST present.

There are certain little foibles, of which our country neighbors, particularly in New England, are guilty, which we heartily wish were abolished. For example, we

would that the spirit, not always to be attributed to meanness, were done away with, which shuts up every portion of the dwelling even against its own inmates, excepting perhaps a single apartment. In that delightful book, "My farm at Edgewood," the author gives us a faithful picture of this failing too commonly met with, and the death of poor Dorothy, and the opening of the darkened parlors, is a true sketch of what takes place every day in almost every country village.

We would gladly see the money now expended in the trashy, half-made articles of furniture, merely because the uncomfortable shapes of some of them, are said to be of the latest style, laid out for those which are truly strong and serviceable, and for this reason, elegant.

We grieve to know that there are families who would willingly dispose of ancestral relics—choice heirlooms that they are, in the shape of solid mahogany chairs, lofty chests of drawers, with curiously-wrought brass handles, elaborately carved bureaus, claw-footed tables, &c., all in perfect preservation, and all of which would long out-

live their present owners, as they have their preceding ones, to supply their places with modern articles, with chairs and sofas upon which no mortal man could ever sit or recline with the least degree of comfort, and with beds and bureaus which soon melt away before the blasts of our modern stoves and furnaces.

We would wish that less dependence were placed in these very stoves and furnaces, and that an open fire-place existed in every room, thus securing ample ventilation and cheerfulness, and thereby contributing to good health and happiness. That at the proper seasons every blind and curtain in the country home should be thrown open to admit the genial sunlight. That the light from the blazing wood-fire as it dances on the walls and ceiling, should show to the belated traveler as he passes, the forms of a happy group gathered about the ample chimney place.

These are but a tythe of the changes which we would exert ourselves to bring about among the intelligent of our rural population. As regards the arrangement and adornment of the interior of the country dwelling, in the present paper we shall speak more especially of the dining-room.

There is nothing more essential to the comfort, and consequently to the happiness of the family, than that the dining-room, should be, of all the apartments of the house, the most pleasant and the most attractive. And to this end, the first requisite is, that it should be properly placed. In building, or in the occupation of the residence already constructed, let that room be selected for the purpose, into which the morning sun at least shall throw its cheerful rays. In our cold climate, at no time is its presence more welcome than at the breakfast table. If practicable, let both the morning and evening sun-light illuminate the room. These points can be attained by the choice of the southeastern exposure. It is not uncommonly the case, that the most dreary, forbidding room in the house,

has been chosen for the daily repasts—a room into which no sunshine, ever pours, and whose whole aspect partakes of that gloomy spirit which too often broods over the tables of our people. We are great advocates for the admission of the sun, especially into those rooms which are occupied throughout the day, and in the construction of a country dwelling, where choice of position is almost invariably to be had, this important point is to be kept most distinctly in view. Where his beams penetrate household neglect on the part of mistress or dependants, is not so apt to be tolerated.

And who can estimate the moral influence which a cheerful, sunlighted, tastefully-arranged room exerts over the members of a household, especially over the younger portion. An influence which shall go with them through life, and which shall build up happy associations, to which their minds shall ever joyfully revert, wherever in the broad world may be their habitation.

In the picture which we should form of what a dining-room ought to be, certainly so far as regards the essential points of which we have spoken, we cannot do better than to present a description of our own, for to us at least it embodies all that is requisite for the growth and encouragement of that home-feeling which we would ever see manifested in our children.

We have a decided penchant for all that smacks of antiquity. We like old houses and old furniture, particularly if comely and serviceable. We delight in painting to ourselves the scenes, through which they must have passed; we believe too that they exert a much greater influence in producing a love for home, than those constructed at a more recent period. Having premised thus much, we will say that our house is old, with a gambrel roof; that its location is a delightful one; that we have refined and agreeable neighbors, and those not too near. The dining-room has a bay-window to the southeast, and two windows

with a southerly aspect. The morning and evening sun throughout the year gladdens it with its presence. The apartment is of fair dimensions, the ceiling low; so low that in the moments of play and during temporary forgetfulness we have brought the heads of our children into very dangerous proximity.

The principal feature of the room, and the one in which we take the most delight, is the big open fire place, which will admit as large a log as one can conveniently bring in. The back and jambs are of brick, well blackened with the soot of many a generous fire. The tiled hearth is broad and long, well-polished brass handirons and fenders, with the accompanying shovel, tongs and bellows, all necessary appendages to the fire on the hearth, are each in their appropriate places.

And what would induce us to part with the cheery and happy spirit, which this old fire-place continually infuses into our little family—whether at the morning hour, when we first assemble around the table, or at the “children’s hour” between daylight and dark, when we gather around its hearth to listen to some oft read story or to recite some well-known adventure! A Turkey carpet of pleasing colors, and of thick texture, an article which, in our minds is always associated with substantial old-fashioned families, contributes greatly to our comfort. An antique sideboard convenient both in its external and internal arrangements, with a half dozen high-backed mahogany chairs, telling of Dutch-land, not to forget a more luxurious arm-chair, constitute the moveable furniture. Simple, unostentatious woolen curtains, hang at the bay and other windows—supported upon black walnut fixtures. These may be easily dropped at night, shutting off, if necessary, the recess of the bay window, and thereby adding amazingly to the cosy, secure feeling in which we love to indulge in the long winter evenings of the country. Numerous engravings adorn the wall, not in gilded frames, but in those

made of hard wood, merely polished and not varnished, and simple in design. Beside the ancient clock and bronze candlesticks numerous little objects, tokens of kind remembrance, adorn the broad and ample mantel-shelf. Plants, whose flowers have delighted us through the dreary season of winter, find a congenial atmosphere and plenty of sun-light in the bay-window. It is hardly necessary to state that a convenient pantry and a good closet, adjuncts which cannot be dispensed with in the well-ordered household, are contiguous.

Such are the principal features of our dining-room. While we have seen many that are more spacious and elegant, we have rarely seen any that contained within it, more that was essential to comfort or that was more calculated to make a stranger feel at home.

We have been thus particular in our description, for the reason that we would dilate more fully upon certain points.

Of course, we could not hope to govern all tastes, but in such a matter as the selection of a carpet for a country dining-room, we should advocate the choice of one modest, not only in color, but in design. So also with the coloring of the walls, whether by paint or paper, we should be governed by similar rules of fitness—giving our preference to some warm neutral tint, and most decidedly eschewing white, as a color totally unfitted for either adornment of exterior or interior.

Drapery curtains, however simple in their fabric or construction, contribute greatly to the appearance of a room, doing away with that bareness which is never agreeable, at least during the cold season. For their accompanying fixtures, the various species of hard wood simply polished, are far preferable to the gilded, which are less suitable in the country, being more tawdry and more easily destroyed. The same remarks apply also to the frames of engravings, and in many cases even those of oil paintings. These may seem to be

matters of trifling importance, but they all go to show the presence of good sense and a refined taste, ruling over a household.

Plants, whether upon a stand or hanging in appropriate pots at the window, add amazingly to the cheerfulness of any room, contributing to the pleasure of those who care and tend for them. They serve also as useful barometers, telling us, by their condition, of the atmospherical state of our apartments, their delicate organization being unable to stand against the injurious emanation from overheated furnaces. Mr.

Rand, in his pleasant book upon flowers, says, "a plant or a stand of flowers is a constant source of pleasure in a room; it is a spring of sunshine, and its silent influence makes all the household more cheerful and better."

Finally, a certain degree of harmony should be preserved in all that concerns the internal embellishment of the country home, a point which is very apt to be overlooked by those otherwise correct in their tastes.

Chestnut Hill, Feb., 1866.

DESIGNS IN RURAL ARCHITECTURE.—No. 18.

BY G. E. HARNEY, COLDSRING, N. Y.

THE plan of this house has been adopted in a number of instances, where cheapness and compactness of accommodation were particularly desirable; and in each instance

there has been made some considerable alteration in the exterior, to suit the fancies of different parties, or the requirements of different locations. In the design before

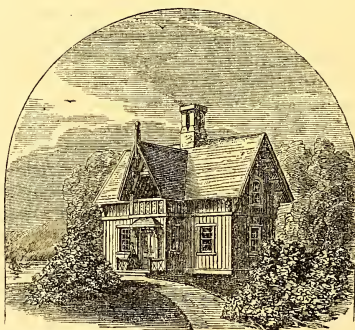


FIG. 131.—*Perspective.*

us, the principal feature of the exterior is the covered balcony over the entrance porch, which, by its depth of shadow, gives boldness to the front, and adds much to

the convenience of the plan, opening as it does out of the two principal chambers of the house, and affording comfort and retirement to the occupants. In winter, it

may be shut in by a glass front, and will form then a very pleasant little conservatory—a luxury which houses of this size seldom afford.

The front door is shielded by a broad hood, and the stoop has seats protected by a railing at the sides.

The front entry, No. 1, is five feet by nine, and opens into the living-room, No. 2, twelve feet by seventeen; this opens into a pantry, No. 3, which is fitted up with sink, cupboards, shelves, and other conveniences. No. 4 is the parlor, twelve feet

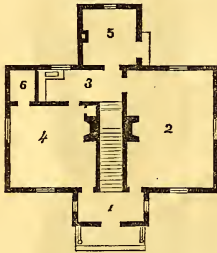


FIG. 132.—Ground Plan.

square; and No. 6 is a large closet or pantry, opening out of the parlor, and fitted up with shelves and drawers.

The cellar stairs descend from the pantry, and the cellar has coal and wood bins, and hanging shelves, &c., &c. In the second story are three chambers, one over the parlor, and two smaller ones over the living-room. Each has a closet attached, and the two front ones open upon the balcony be-

fore mentioned by means of French case-ment windows.

In one of the designs to which this plan was adapted, an extra chamber was made in the place of the covered balcony, and the exterior was finished otherwise in a more ornamental manner. The second story projected over the first about ten inches, and was finished in the vertical and battened manner, the boards being all reduced to a uniform width, and the lower ends, which projected over, were sawn in an ornamental drop pattern.

The principal story exterior was covered with shingles, also cut to a pattern, and nailed to hemlock boarding.

In another design, the gables were all cut off, and the roofs, which were much flatter, projected three feet all around, and were supported on heavy brackets—some-what after the manner of Swiss houses—the front and rear projections being continuations of the main roof.

The house in each instance was built of wood, filled in with brick, and the roofs covered with slate.

Both stories measured nine feet high in the clear, and all the rooms had open fire-places. The walls were hard finished throughout, and all the inside wood-work was stained a dark color and varnished.

The floors, which were laid with narrow plank in courses, were stained alternately light and dark.

The exteriors were painted with grays and drabs, varied in shade and tint.

This design, which was the simplest of them all, cost in 1864 about \$1,500.

ROGERS' HYBRID—No. 4 GRAPE.

BY F. R. ELLIOTT.

For six years past, I have been examining the various hybrid grapes sent out by Mr. E. S. Rogers, of Salem, Mass. I have examined many of the numbers yearly, and made my own note-book comments, with

little regard to the clouds and shadows of public opinion that, from some unaccountable cause, have long overshadowed them. I find, on referring to my notes in 1862, when I saw the fruit on vines in four differ-



FIG. 133.—*Rogers' Hybrid No. 4.*

ent States, and twenty-seven different localities, on sand, gravel, loam, and clay soils, that I have written—"As a table grape, ripens with Concord, is larger in size of berry, equally handsome in bunch, and of a superior quality."

From that year to this present season, I have had opportunity of seeing the vine in fruit in various localities and soils, and my note-book yearly confirms above remarks.

In vigor of growth and hardihood of vine, I see but little, if any, difference between No. 4 and Concord; and as neither, in my opinion, can rank as first-class wine grapes, and as size and quality are points to meet the public market demand for table grapes, I cannot but think cultivators err when

they plant out Concords to exclusion of Rogers' No. 4.

Herewith, I send you drawing and description of a bunch, with one berry showing its interior.

Bunch large, pretty compact, generally slightly shouldered. Berries large, oblong, round. Color, dark purplish; almost black when fully ripe; covered with a light blue thick bloom. Flesh dark, with a fine white outer concentric line next the second cuticle, and red on the stem formation next the seeds. Pulp small, rich, vinous; slightly harsh, or of native aroma. Seeds whitish-yellow. Skin like Isabella in thickness. Ripens with or before the Concord; or say, in Northern Ohio, from 1st to 15th of September.

GRAPE MEMORANDA.

BY M. H. L., SANDUSKY, OHIO.—PART I.

A FEW weeks in August and September of this season have been very pleasantly and profitably spent in visiting many of the noted and promising localities for grape growing in Ohio, and somewhat beyond her limits along the South shore. If a "plain, unvarnished tale" of facts observed and opinions "bagged" shall be of any sort of service to the vast public interest in grape and fruit culture, I shall not repent having complied with the request of the Editors of the *HORTICULTURIST*.

THE IVES' SEEDLING AT INDIAN HILL.

The unpromising look of the Catawba vineyards, on the steep hill sides, as one approaches Cincinnati by the Little Miami Railroad, recalls the wail of Mr. Thomas H. Yeatman, on the unsuccessful "grape-growing in this vicinity," and arouses curiosity to see that grape, "not addicted to mildew nor rot," of Colonel Waring, Indian Hill, which figured so handsomely (netting \$2,000 per acre) in the rejoinder of the Cincinnati Horticultural Society.

A ride of nine miles through Walnut Hills, where numerous villas "bosomed high in tufted trees," lend additional charm to a lovely landscape, brought us to the elevated summit of Indian Hill. The top of this hill is a small plateau of gently-rolling surface, and 400 feet or more above the Ohio river.

The colonel, who is a very courteous and sensible gentleman of the old school, showed his well-kept vineyards with something of honest pride; for he told us that he now gathered thousands of dollars with ease, where, a few years since, with toil and anxiety he sometimes realized, but oftener lost hundreds on his Catawba vines from rot, mildew, or winter's frosts.

He has now nearly three acres of Ives in bearing. A portion of these are four, and some six years old. One would not hesitate, at the first sweep of the eye over it, to call it a Concord vineyard; there is such exuberant growth, such large size of leaf with healthful color and apparent firmness of texture. The soil is a clay loam, never

subsoiled, I believe, and not underdrained. The ground is slightly undulating, but I should judge that a vast proportion of the water which falls on it must find lodgement there. The vines are set in rows five feet apart and at the same distance in the row. They are trained to high stakes and as they exceed the prescribed limits, are entwined with each other along the row. I found many canes stretching across five spaces or twenty-five feet, and this on the 1st of August. It is well known that the Colonel, when he first planted this vineyard, supposing the soil exhausted, manured an acre or more of it very heavily, and followed up the process one or two successive years. While the growth elsewhere is all that could be desired, here it is excessive, as indicated above. It is his practice to trim out laterals on the bearing wood, but the young canes are allowed to grow at will. The vines are prolific. Everywhere they labored under a burden of dark clusters, generally quite compact. The heavy rains at the time of flowering had thinned many bunches, and some, on the part most heavily manured, had been affected by rot. He sadly laments his hundred wagon loads of manure to the acre—and that twice repeated.

Last year his crop of fruit was large, and the must was sold off at once at \$5 per gallon. The wood ripened thoroughly, was trimmed off in the fall and sold mainly to Mr. McCullough, of Cincinnati, at \$20 per thousand. I might add that in the spring following Ives' wood was eagerly bought at \$40 per thousand. I could not see that the remaining canes were even partially injured by last winter's severe freezing. Colonel Waring helped me to the following account of the origin and history of the Ives:

"Henry Ives, of Cincinnati, raised it from the seed. After fruiting it, some twenty-six years ago, he exhibited a few clusters at the rooms of the Cincinnati Horticultural Society, and distributed cuttings of it under the name of the Ives' Madeira

Seedling. He supposed it to have sprung from the seed of a Madeira grape, which he had obtained from foreign shores. A fuller acquaintance with the habits of the vine, its leaf and its products, convinced many members of that Society that Mr. Ives was mistaken as to its parentage, and it was agreed to name it simply Ives' Seedling.

When the cuttings were thus first given out, Col. Isaac F. Waring, of Indian Hill, near Cincinnati, received several, planted them out in his garden, and raised six or eight vines. He did this to have on his grounds a *very early grape*.

The fruit colored by the first of August, and was presented by Ives at once as being fully ripe. The appearance of bunch and berry pleased the eye, but, as the grape was really many weeks from being mature, it did not very favorably impress the Society, though recommended for further trial. These few vines of Col. Waring remained many years in his garden, fruiting heavily each year, plucked of their black berries in early August by children and visitors, but unnoticed by the owner, because he did not fancy a comparatively green and tasteless pulp, even though he could have it many weeks before his favorite Catawba. When his vines came into full bearing, at the suggestion of Mr. Rufus Kittredge, his neighbor, he experimented in making wine from his new grapes, but unsuccessfully, since the pressing took place too early in the season. Twelve or fourteen years passed, in fact, before Col. Waring tasted of well ripened Ives'. By accident he found a few clusters hanging on the vines in the middle of September, and was delighted with the fine aroma and quality of the fruit and the weight of the expressed juice. He decided at once that the very early ripening was a mistake, and that he would increase as largely as possible the number of his vines. Dr. Kittredge made wine later in the season, which met with high favor, and for a time this grape was known as the Kittredge. The Colonel's confidence was now so great that a failing

Catawba vineyard was uprooted, and Ives', as fast as they could be multiplied, planted in its place. In a published article he says: 'I have had this grape in cultivation, with fruit every year, for more than twenty years; during this time no mildew has ever been seen upon it. One year, when I had manured my vineyard heavily, an immense growth of wood was made. There was some rot, yet the crop that year was a fair one. Never since the vine first came into bearing has there been more than a partial failure, while some years it has produced the largest crops of fruit I have ever seen from any grape. The yearly average product of wine per acre thus far is over five hundred gallons.'

I append the following extracts, which are historically valuable, and which, coming from well known and interested horticulturists, will give this account more weight in the eyes of many:

"Geo. Graham, Esq., President of the Cincinnati Horticultural Society, gave an interesting account of the Ives' Seedling before the Ohio Pomological Society in December, 1865, and among other statements, made the following: 'Two years since (1863) Col. Waring made about five hundred gallons of superior wine. * * * It weighed in the must, that year, 86° and the weight of alcohol contained in it 13½ per cent., when separated by a French instrument. (It would not show so much alcohol by the German scale.) * * * Some vineyards in Waring's neighborhood, where the vines grew in the native soil, without manure, were not affected by rot, and the wine of this year's (1865) pressing is of very high character, selling from the press at four dollars and fifty cents per gallon. Col. Waring, I believe, expects to get six dollars per gallon for this year's wine.

The grape is a dark purple, of large size and large cluster, shouldered and compact as the Catawba. The vine is a remarkably strong grower, carries the leaf very late in the season, and grows very freely from

cuttings in the open ground, or from buds forced by heat.

The wine is a beautiful claret color, of pleasant flavor, and by some connoisseurs is considered as a high character of Burgundy; by others as a very superior claret. With our German wine-drinkers it is now the favorite wine, and brings the highest prices.'

The *Cincinnati Commercial* of September 3d, 1866, in a report of the proceedings of the Cincinnati Horticultural Society, says: 'Dr. Warder, R. Buchanan, Geo. Graham, and J. M. McCullough, paid a visit, during the week, to the vineyards of Waring, Roberts and Demar, on Indian Hill, to examine the Ives' Seedling. They report that this grape, thus far, has generally resisted the rot, and this year the crop promises well. The vines planted twelve years ago by Dr. Kittredge, had a good crop of fruit, with little appearance of rot. The vines were in a very healthy condition, holding the foliage better than any of our native grapes and showing an unusual strong growth of wood. It may be considered the grape for this climate.'

One of the members of the above committee, Mr. McCullough, writes us under date of September 4th: 'We think the Norton's Virginia Grape the best, but *very unproductive*—the Ives' next best, and very productive, and hence the most profitable in cultivation.'

Let me add that this is a fine table grape, sweet and vinous, better than Concord—never cracks and never drops, and is said to make an excellent raisin.

As the time of my stay at the Queen City, was limited, I did not have the opportunity of visiting other vineyards of Ives', of which there are now a number of small ones, nor especially, which I most regretted, the fine vineyard of Norton's Virginia of Mr. Geo. Bogen and the famous Delawares of the veteran John E. Mottier. Mr. B. reported his Norton's in prime condition and fruiting fairly but not heavily. He did not think they had ever yielded

with him more than half as much wine as the Catawba in its favorable seasons. He brought forth a bottle of Norton's three years old. This he kept in reserve in his home cellar. The must weighed 118°. It was certainly most excellent. It diffused a genial glow through the body, and was quite reassuring to weak nerves in a cholera panic. He said that the physicians prescribed both Virginia and Ives' wine, and that during that week he had sold more of the Norton's than for months before. It was stated that many, in all parts of the country, complained of the discouragements in getting under headway with Virginia vines. Mr. B. replied that he had had no difficulty with first-rate roots.

Yet I know that in many cases the vines have died after having made a growth of ten inches the second year. The Catawba promised varied results. With some it had not blighted, and rotted but little. These hoped for three-fourths of a crop. With others it was already nearly a failure. It was the judgment of Mr. Mottier, Mr. Heaver, and others, that there would be on the average a fair crop. Since my visit, I have learned from A. C. Mottier that later the rot had set in again, and there would not be more than half a yield. The Delaware was troubled some in leaf, though not as badly as last year. It was injured, too, with them by the winter's exposure. Mr. Mottier expects a good yield from his vines.

AT DELAWARE.

All who grow or eat the nectarous little Delaware (even the birds), will be anxious to hear from Delaware and Mr. Campbell. His castellated residence is as much of an ornament to the little city of schools and sulphur springs as to his "descriptive list;" and though not enwreathed in nature as in vignette, it is vine-clad, and bespeaks the man of refined tastes and "given to hospitality." His grounds near his residence are well occupied with plant and propagating houses of admirable construction. In

the nursery were myriads of young plants of all the tried varieties; but chiefly the clean and delicate leaf of the Delaware met the eye and plainly indicated that Mr. C. had not by any means forgotten his old-time enthusiasm for this favorite variety. Delawares of advanced age, eight and ten years, standing near his residence, branching at will, over its blue limestone walls and aspiring even to the roof, show great healthfulness of leaf, vigorous growth, and are richly garnished with well-compacted clusters. There were Ionas, too, in the fourth year looking thrifty as Catawbas; but only fruiting from secondary buds, as the late frosts took the first show of fruit. A Rodger's No. 2 was quite remarkable for its numerous and large bunches with berries like those of the Union Village. Too late for his locality, but he thought it might do well on the lake shore. He has a good opinion of the Underhill Seedling and the Miles—both comparatively new, but well recommended. They are good growers, hardy, and of good flavor—the latter very early. He has many seedlings; one of which was quite heavy with fruit, colored even then in broad splashes and petted with a net, as if to veil it from profaner eyes, though in reality to protect it from the birds. Mr. C. takes great interest in small fruits also, and has made up his mind, as almost every one else has, that the Kittatinny blackberry and Philadelphia raspberry must yet be found in all the gardens and on all the tables of the land. The Kirtland is high in his favor, both for its quality and hardiness.

THE LAKE SHORE GRAPE-GROWERS' EXCURSION.

On the 15th of August, the steamer Clinton, of our city, carried fifty or sixty grape enthusiasts over to Kelly's Island, where we found a hundred odd excursionists already busily spying out the land and the fruit of the vine. Capt. John Spalding, of the steamer Lac-la-Belle, had generously given them free passage from Cleveland.

Among them were many of the magnates of horticulture, viz: Hon. Marshall P. Wilder, Chas. Downing, P. Barry, and F. K. Phoenix.

Kelly's Island contains 2,800 acres, and a resident population of about 800. So rapidly has vine-planting extended within the last ten years, that 745 acres are now devoted to grape-growing. The annual increase at present is about 100 acres. Last year (1865) 1,865,811 pounds of grapes were gathered, and 80,496 gallons of wine were pressed. The largest yield of wine from one acre was 800 gallons.

The crop last year was excessive; the wood was not thoroughly ripened when winter set in, and the frosts of last February materially lessened this year's prospect by destroying one-third of the buds. At the time of blossoming, there were repeated, and often violent showers, continued at intervals through June and well into July, which made sad innovations upon the clusters, washing away the pollen, blighting parts of the bunches with mildew, and in early July inflicting some rot.

These destructive causes were generally at work on the islands, peninsula and mainland; and, though there are many instances of fair crops, especially in the young vineyards, such as are now in their fourth year, and did not bear heavily in the third, still the crop hereabouts may be safely averaged at one-third. The above estimate is made in reference to the Catawba. With us this year, the Isabella is quite a failure—buds and wood even, sometimes nearly to the ground, destroyed by the cold of the 16th of February last—16° below zero. Last season the vines of this variety fruited very heavily, did not suffer from rot, but in the fall early, as the berries began to turn, mildew struck the leaves. The fruit ripened but poorly, in some cases not at all, and the wood was ill-prepared even for the frosts of December. The excursionists, particularly those from the Lake Shore eastward, seemed disappointed at the apparent neglect of many vineyardists on

Kelly's Island. They attributed it to discouragement. No, there is no thought on the islands or elsewhere of throwing up, or of giving careless attendance upon their well-cherished acres. It is the teaching of their experience, as they read it, that too constant tillage during a wet season induces blight and rot, and that summer pruning in any season is a positive detriment. One feature witnessed here struck every one favorably. In one part of the island there are 125 acres of unbroken vineyard, with several proprietors, who cultivate their individual tracts in perfect harmony without division fences. Universally in this vicinity, islands and mainland, the heavy clays are esteemed the best grape land. To prepare them, they must be subsoiled and well underdrained. The vineyards on low, dark soil, or where it is shallow upon rock subsoil, generally, had yellow leaves and straggling clusters.

The Delaware everywhere looked well—foliage healthful, good growth of wood and a plentiful crop. We were particularly interested in the comparison of an acre of Delaware with an acre of Catawba of the same age, side by side, in Mr. Beatly's vineyard. Of the two, the Delaware had made the more wood, looked the healthier, and was the more heavily fruited. Both were on heavy clay, and neither ever had the least enriching. With regard to manuring. I might say that nobody believes in it or practices it here for any variety, and it is acknowledged on all sides that our heavy clay, when well prepared, gives us the most healthful vines and the best fruit and most of it. I allude particularly to such well-tried varieties as Catawba, Isabella, Delaware, Concord and Hartford Prolific.

Our party spent the greater part of the day at Kelly's, and then set sail for Put-in-Bay, eight miles distant. This island, also called South Bass, contains 1,400 acres, and has a resident population of 500. There are now 494 acres planted in grapes. Last year there were 1,117,801 pounds of grapes

gathered and 33,805 gallons of wine pressed in Put-in-Bay township, which includes Put-in-Bay, Middle and North Bass, Sugar and Rattlesnake Islands. The largest yield was from Mr. Lorenzo Miller's vineyard. A prize hat was offered by a Sandusky, C. J. Parsons, Esq., to the man who could prove the largest crop of grapes on an acre of ground. After thorough investigation it was decided that Mr. Miller had fairly won the said *chapeau*. The yield was eight tons. He sold from five acres 34,500 pounds of fruit, and made 6,000 gallons of wine. The price of grapes averaged $7\frac{1}{2}$ cts. per pound, and new wine was worth 90 cts. per gallon. This gives \$7,987.50 for a five-acre grape crop, or \$1,597.50 per acre. These were mostly Catawbas. It may be added that this year Mr. Miller will not be able to show anything like so remarkable a record. His vines are in their sixth year. He looks only for a quarter of a crop. The vines were badly winter-killed.

Philip Vroman took real pleasure in

showing us through "the oldest vineyard on this island." He first set out five acres nine years since, if memory serves me. Last year's vines yielded him \$900 per acre for fruit. His Catawbas were bearing scantily; but 1,200 Delawares, which bore well last year, were heavily loaded, and layered somewhat besides. He sold last year at 25 cents per pound; they are generally selling for that this year. In fact, on islands and mainland, the Delaware is winning golden opinions on clay, black soil and sand.

I have wearied the reader's patience past forgiveness now, I fear, or I would speak of the wines tasted, the sales of land at fabulous prices, the methods of training and cultivation, the visit to Middle Bass and the mainland about Sandusky, and subsequent observations on the Peninsula. In a future article I propose to speak of a trip among the vines eastwardly along the lake shore as far as Pennsylvania.

IMPORTING ENGLISH SPARROWS.

BY J. S. H.

In the HORTICULTURIST for October, I observe that you recommend the importation of English sparrows, as a means of protection against the destructive insects which infest our fruit trees in America. I am not prepared to say, positively, that the recommendation is not a wise one, as I am not fully acquainted with the habits of the bird in question; but I would like to know more about the English sparrow before joining in your advice.

In reading the horticultural journals of England, I have noticed that there appears to be more damage done to fruit, in Great Britain, by birds, than there is in the United States. There are frequent discussions of an earnest character, upon the question, which are the most destructive to fruit, the insects or the birds? It appears

that in England it is necessary to protect cherry trees, and nearly all the small fruits, especially strawberries, with netting, to preserve any portion of the crop from the birds.

English black birds, thrushes, finches, and sparrows are, I believe, much more ravenous and destructive than similar birds are in this country. I think I have seen it stated, but I cannot now find the authority, that the sparrows even devour the tender fruit-buds of the pear and apple, in early spring, before they expand into blossoms. I have an impression that the English sparrow is a fierce, ravenous, pugnacious bird, and that while he might help us to get rid of some insects, he would prove a dangerous guest in our orchards and gardens.

I have not felt altogether sure that even our gentle little Jenny Wren was not guilty of eating good plump fruit-buds. I have intended to watch them in the early spring, but have as yet failed to do so. Certain it is, that many a *fruit-bud*, from some cause, proves *fruitless*. I suspect the birds take many a tender bit from the opening flowers.

With these views, I advise caution in the introduction of English sparrows. Let us know precisely what are the habits of these birds; how much damage they do to fruit-buds, to cherries, strawberries, and other small fruits. I fear it will be found that this sparrow is worse than the insects he destroys.

THE HICKS' APPLE.

BY ISAAC HICKS, NORTH HEMPSTEAD.

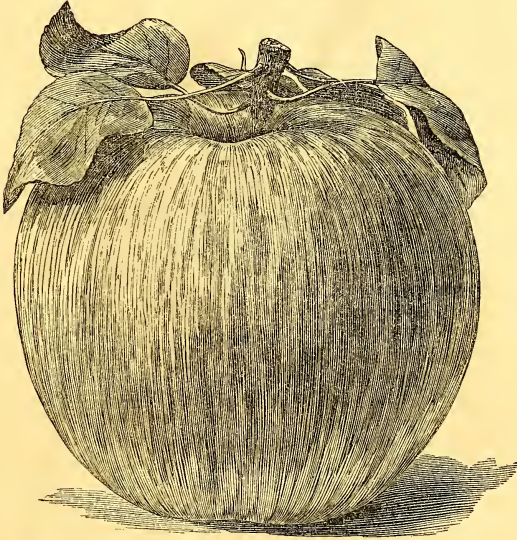


FIG. 134.—*Hicks' Apple.*

THIS apple is a natural seedling, found growing wild in a hedge. It is an early and abundant bearer; tree a good grower;

fruit of fine size and appearance. I consider it the best early sweet apple that I have seen. Season, middle of August.

THE DORSON PEAR.

BY ISAAC HICKS.

THE Dorson pear is a seedling, found near Glen Cove, Long Island. It has so far proved hardy, a good grower, and productive. Its very attractive appearance, to-

gether with the fact that, unlike many early pears, it will keep a long time, if taken early from the tree, and house ripened, must render a good market fruit.

FIG. 135.—*Dorson Pear.*

In general appearance it resembles Osband's Summer, which it, however, surpasses in quality. It is probably a seedling

of the French Jargonelle, but superior, in every respect to its parent.

NOTES ON THE SEPTEMBER NUMBER.

LAWs OF ASSOCIATION IN ORNAMENTAL GARDENING.—Thanks to the writer for thus embodying ideas of association familiar to the student of Nature, but as little known or understood by the mass of people as so much Greek. I hope that, as the *HORTICULTURIST* reaches hundreds, this article will revive and encourage memories and associations, and educate to a just appreciation the creations of God's boundless love for man, until each home of man on earth shall evince in its outward surroundings their knowledge that even here He would not have us satisfied with an "abode simply endurable, but would have it a paradise of delight."

DESIGNS IN RURAL ARCHITECTURE.—COUNTRY SCHOOL-HOUSE.—A simple, plain, yet effective design. But why is it that we construct our own dwellings with wide verandas, for comfort and enjoyment in shielding us from sun and storm, and in the construction of our schoolhouses omit every such point? I certainly think a great error has been committed in all schoolhouse designs and buildings, in the omission of wide covered verandas. Let us take practice: The rules of a school are, that the door shall be closed until the exact hour of assembling, and if a child is one minute late in entering the room, he is marked "tardy." Now the child has no timepiece to guide his movements; and if it rains or snows, and he reaches the school door fifteen minutes before time, he has to endure the storm without roof protection; or if he does not get there in time, as I have said, he is marked down as a laggard. That is one item of practice, where the wide and extended veranda would be a comfort, and often a preventive of sickness.

Again, on a rainy day or a sloppy time, as schoolhouses are constructed, the child at recess cannot go out of doors without exposure, and the risk of wet clothing and feet; but if a veranda were built say on two sides of the building, one side or the

other would always be clean and dry for play and enjoyment during recess hours. There may be strong objections to the veranda, and I suppose there must be good ones, for no schoolhouse, to my knowledge, has one; and yet I never heard a valid reason for their omission.

GRAPES AT AVON POINT.—A good record of the doings of one energetic persevering man, of which, however, Northern Ohio has many samples. Recently I traversed the grape-growing region of that section, and with a recollection of years back, when Kelly Island was almost the only point where grapes were grown to any extent. I confess my surprise at the present number of acres in vineyard, and the apparent prospect of their being profitable as a crop. In earlier days, the Kelly Islanders counted their lands as the only ones fitted for grape-growing; and when Put-in-Bay and the Peninsula began the work of planting, they laughed at the matter as one of experiment. Now, all the islands in that portion of the lake have grapes growing on them successfully; and the shore on the south border of the lake, from North-East, Pa., to Toledo, Ohio, has many thousands of acres, some giving promise even of better results than the famed lands of Kelly Island.

AMONG THE RASPBERRIES.—A practical record. As with the strawberry so with the raspberry, we find that soil and location make a very great difference in the actual value of the plant, both in its fruit and its hardiness. Planters should, therefore, use sparingly of new sorts.

PLAN FOR LAYING-OUT, A TEN-ACRE LOT.—It may be I have no taste, or if a taste, not a just and appreciative one; but cannot fancy a mathematical, curved, or circular line as a natural roadway. It may be the "line of beauty," but not as I have studied it. Again, as I have studied water, in ninety-nine cases out of a hundred, the extent of ground here occupied would

present only a ditch and a mud-hole. It is possible a piece of ground could be found or constructed, where the level would be such as to bring the banks in accordance with this breadth, and where the stream would flow rapidly enough to keep all clear; but where one such piece occurred, many others would present, as I have already said, only a ditch and mud-hole. Water is a difficult thing to handle in landscaping; and unless the grounds are naturally adapted, by clear running streams through them, or some such connection, the improver of grounds had better let the construction of ponds and lakes, with fancy islands, remain in the picture, rather than attempt their construction in his grounds.

THE DELPHINIUMS.—I am glad the writer says he has not done with his subject; for, although I have given the flower little attention for some years, I have often thought much might be got from them by skill, care, and time.

GRAPE MILDEW VERSUS THE ESSENTIAL OILS.—It is well to keep before the public the beneficial effects of the use of salt, copperas, &c.; but in my experience this season their use has been needless, at least so far as grape mildew is concerned. I have looked for some record of practice this year of their use in blight on the pear.

In my grounds I have used salt as a manure, and have had no blight on my pear trees, while all around me the blight has been destructive. Now, how does the salt act in this connection? or does it act at all? Is my exemption anything but chance?

EARLY FALL TRANSPLANTING.—Loudon, I think, says that trees removed before the young wood is all ripe are injured and enfeebled, but I think he can only have reference to plants taken with root entire.—Whereas, as here recommended, the removal of the tree in our natural course and manner of digging, breaks off, and leaves in the ground, at least one-quarter to one-third of the roots; and, as the shortening in of the top takes off the unripe wood, it

appears to me no injury is done by early removal, but a gain is made by early transplanting, by means of the new formation of fibrous roots, aiding the tree to endure its position during winter, and enabling it to supply food to the new leaves at an early period in spring.

NOTES ON RASPBERRIES AND CURRANTS.—Concise, plain, and practical. No man in our whole country stands more truthful and reliable than the writer of these notes; and every horticulturist quotes him as authority not to be questioned. I am glad of these notes, because I want to add to my raspberries, and because I now am confirmed in my opinion relative to the identity of sorts. It is a most unpleasant item to write in one's note-book, viz., that juniper and red juniper are the same identical kind of currant; then, when the time comes to make fall purchases, find, in a *reliable* catalogue, the two recorded as distinct, rare, and of course a good price appended. I say this is an unpleasant item, because it either leads one to think he has no knowledge, even of his own eyesight and taste, or that the issuer of the reliable catalogue is a —

MY EXPERIENCE OF GOOSEBERRIES.—I, like the writer, have often wondered why the gooseberry was not more generally grown. In my earlier days, we used to have gooseberry pies in February and other winter months, from green gooseberries, kept in Junk bottles, packed in sand in the cellar. To my present recollection, those pies were good; but now I cannot recollect when or where, of late years, I have met with such a thing. The canning of fruits, as peaches, &c., I suppose, has taken the place of all such fruits as gooseberries and currants; but when we take into account that these are fruits always to be relied upon, while the peach is at best an uncertain crop, it seems to me that the owner of lands from which to realize money, as well as comfort for his family, should plant largely of the gooseberry.

STRAWBERRY AND RASPBERRY NOTES.—I am glad to see this record. It is one

more nail in the fact that mulching—pays, and another notch in the paying, as a market strawberry, of the Wilson, three acres of which produced 10,000 quarts, to six acres of Russell and French, producing 8,000. The Philadelphia raspberry here again is a success. I hope Mr. Hicks will try more kinds another year, and give us the results. Messrs. Downing and Elliott both record sorts that I would like to see farther tested.

GLEANINGS.—In commenting, I only wish to say, that the tulipomania, as recorded in

Holland, reminds me of the stockomania of Wall Street, from 1862 to 1864; and of the mulberryomania of 1836 to 1838. And to this I desire to add, the tulip is one of our most gorgeous flowers of early spring, and too much neglected. I have seen a bed of tulips, only six by ten feet, or thereabouts, in extent, draw admirers from every quarter, and from all classes; those of educated tastes, as well as those all unused to the knowledge, or acquainted with the terms bybloemen and bizarre.

REUBEN.

EXPERIENCE WITH GRAPE SEEDLINGS.

BY E. IVINS, PHILADELPHIA.

DURING the Fall of 1865 I collected a number of seeds of the best varieties of grapes, both native and foreign, as far as I could, selecting from the largest grapes and from the finest bunches. From the Northern States I selected Creveling, Iona, Allen's Hybrid, Adirondac, Delaware, Diana, Concord, Elmira,* Isabella, Union Village, Mount Lebanon, Rebecca, Israella, and Catawba. A friend sent me from California, Catawba, Diana, Isabella,† California Mission, Decan Superb, White Nice, Black Hamburg, Flamed Tokay, Chasselas Fontainebleau, Muscat of Alexandria, and White Frontignan. I also secured a few White Almeria or Malagas. I put each kind in small envelopes properly labelled and kept them in a box which I placed on the cellar floor in a dark place to keep the seeds from getting too dry. But they did not freeze—a fact I subsequently found to be of *vital importance*. About the last of December I prepared a box about 2½ feet long by 16 inches wide and 10 inches deep; filled it with leaf mould with which I mixed a little lime and ashes; laid out my

rows 2 inches by 1½, planting one row of each kind, marked, about ¾-inch deep, and placed the box in my office window in the factory, the temperature of which during the day was about 65 degrees Fahrenheit. The balance I planted January 15th, in similar boxes and soil, and kept them in the cellar of my dwelling. On February 26th I observed that one seed had germinated in the first box I had planted. I found it in a row marked "Malaga;" on closer examination I found that *all* the Malagas had sprouted. *But no others*. It then became evident to me, by examination, that the natives would not, or rather could not, germinate, unless the seeds were first frozen. I then carefully removed the row of Malagas to a box by themselves. And as the weather was still quite cold, I placed the others out of doors with a view to get them frozen. The boxes in my cellar were removed to the roof of the house on the same day and for the same purpose.

I would here remark that a careful examination of the seeds of the various kinds that had been planted fully convinced me that it was impossible for the germ to burst the shell, unless aided by frost or some other means, these seeds, after lying

* A fine luscious black grape, I found for sale in a store at Elmira, New York, and not knowing the name of it, I was obliged to use this one in order to distinguish it from the rest.

† The following are exotics.

in good, rich leaf-mould for nearly two months and kept at a temperature of from 50 to 75 degrees during that time, were nearly as firm and hard as when first planted. True, a small portion of the outer covering appeared to be decomposing, but when that was scraped off, the firm, hard, bony shell was tight and perfect. The Malaga, which germinated freely *without freezing*, is a native of the southern coast of Spain. In these the shell was, no doubt, thinner, and I must consider the fact as additional evidence of the great adaptability of nature.

After placing the boxes on the top of my house (our city lots are so diminutive that this course became a necessity with me), they got two or three good freezings and nothing remained but to patiently await the return of spring to prove the results. About the first of May I discovered a few of the Catawbias making their appearance above ground, and from that time until the end of the month, they continued to come up, including all the different kinds, except Diana and Israella, these two being very late and sparse, and, after a brief existence, they mostly gave up the ghost. With the above exceptions, success of growth, now seemed almost certain, and in my daily visits to them, I derived great pleasure in seeing the beautiful little leaves expanding and assuming that rich green color indicative of health and vigor. I may mention that I noticed a few among the different kinds that came up with *three* primary leaves. These I have marked, to see if their future foliage will differ from the others. The following is about the rate or proportion of the different kinds that came up; Malaga and Catawba, 9-tenths; Concord, California Mission and Creveling, 8-tenths; Isabella, Iona, Elmira and Allen's Hybrid, 6-tenths; Delaware, Adirondac, Union Village, Rebecca and Mount Lebanon, 5-tenths; White Muscat, Frontignan, Black Hamburg, Flamed Tokay, White Nice, Decan Superb, and Chasselas

Fontainebleau, 3-tenths; Israella and Diana, 1-tenth. At first, the Catawba and Creveling took the lead in size. But during the latter part of August the former was much afflicted with blight on the leaves, and at the present writing, September 26th, Malaga and Decan Superb are ahead of all, being from 18 inches to 2 feet in height. Natives and exotics were all treated alike, and all suffered the same exposure including the frosts and cold nights in May, and I really must confess surprise to find at present that the latter is the most vigorous and healthy. The California Mission, as well as most of the other European kinds still hold their leaves which are firm and green, while many of our natives, such as the Catawba, Iona, Delaware and Rebecca have nearly lost theirs with blight. Although the grapes from which the seeds of the foreign kinds were taken, were grown in the *open air* in California, I could hardly expect that fact to qualify them to stand the out-door changes of our climate, yet, with their present appearance I would scarcely dare to deny it. Another year or two, however, will prove more in that respect. It is my intention to remove them from the boxes after the leaves fall in November and cover them with earth in the cellar, replanting all the best, in the spring, in the open air, but not in boxes.

I have read and heard the experiences of many with grape seedlings, and I would not have any of your readers suppose me vain enough to think my plans superior to that of others who have had more experience. On the contrary, being in the city, I have labored under great disadvantages for a proper place to grow my seeds. Neither would I have them think me inflated with the idea of producing a superior grape. That I *have hopes* I will not deny. I have considered well the chances and intend to give the subject my best care and patience, believing that *some one* will yet produce the "Great American Seedling."

GROWING ASPARAGUS.

BY DR. J. S. HOUGHTON, PHILADELPHIA.

HAVING tried the plan of growing Asparagus from plants only six months old, instead of two years old, as is generally done, it may be worth while to give the result of the experiment.

In the spring of 1865, I sowed the seeds of asparagus in a hot-bed, and, as the plants appeared, thinned them out and treated them in all respects just as is usual with tomato and cabbage, thinning them very much, or pricking them out into a cold pit, and hardening them off as the season advances. The young plants were then left to stand in the frame or pit till the last of August, when they were transplanted into properly prepared trenches or drills three feet apart, or nearer, and about nine inches apart in the rows. At the time of transplanting, the tops were shortened a little, to remove part of the foliage.

The plants of course made little or no growth the season of transplanting, but took root and maintained their vitality till frost, when they were cut down to the ground, and covered with soil and a mulch of manure.

In the spring of 1866, the plants were uncovered as soon as they showed signs of starting, and as they grew, were tied up to small stakes to keep them from breaking down. As soon as it was evident that the large portion of the plants were alive, they were thinned out to eighteen inches apart, and the vacant spaces, if any, were filled with the spare plants.

The growth this season, notwithstanding the drouth, and a poor soil, has been highly satisfactory, making large bushy shoots, with numerous shoots from each plant; and now, after a single season's growth, giving promise of a cutting for the table next year, if desired, although it may not be advisable to take any of the shoots for eating so soon.

The argument in favor of this plan of planting asparagus is, that from the start you save all the roots of the plants, and do not check or stunt the young asparagus so much as you do by digging up and planting older plants.

Another, and the chief point is this: When two year old plants are dug up from closely-planted seed beds, they are generally in clusters, and are not only rudely torn apart, and thus injured, but many of the roots are lost in digging, and more are usually cut off, so that when the plants are set out (usually too late in the spring) they are bruised, enfeebled and stunted, and do not start into growth till late in the season. Then of course they continue to grow till late in the fall, and do not ripen their stalks or crown buds till after frost, if at all, and the tender crown buds are very apt to be injured by frost and rain, in the winter, and the plants die out the ensuing season.

I am much pleased with this method of growing asparagus. It seems to me a saving of time and trouble, and I think it produces superior plants.

I may add that I have planted my asparagus, not in a bed, after the old method, but in rows three feet apart, (as before observed) with the intention of working the plants with the horse hoe and plow, just as we do potatoes, which I have no doubt is better than the bed system. I now think the rows should be three and a half feet apart, at least, where land is plenty, as my plants of one season's growth almost meet in the centre of the three feet space. Heavy surface manuring may be applied in the fall, between the rows, and the plants are then to be covered deeply with the plow. This is the best plan I think for growing asparagus for market in large quantities.

GRAPES IN CITY YARDS.

BY CHAS. W. RIDGELY, BALTIMORE, M. D.

AFTER three years of patient waiting, at last I have eaten my own grapes, grown in my city yard, and proceed to tell the reader how they taste here in the "Border States," and how I made room for so many kinds in my diminutive domain.

The Iona is prince of the hardy grapes. Compress two or three berries gently with your tongue, and your mouth is filled with juice, rich, sweet, pure and vinous. You miss no desired ingredient, you detect nothing unpleasant in the taste; you spontaneously say, "that suffices; I seek nothing better." Besides its excellence, it is early, prolific and the most beautiful of grapes. The Delaware comes next; were it of equal size, and not so wonderfully sweet, it would rival the Iona. The saccharine element is in such excess, that it seems almost to have candied, and the grape tastes as if you were eating sugar. Sometimes a bunch may be found juicier than the rest, and not so sugary; quite as pure and vinous, but sweeter and more delicious than the Herbemont. The Israella is large, early and very sweet, with a thick skin. Every one should have it; but I have not yet fully decided where to place it in my list. If it has not attained to the "*first three*," it is certainly "honorable among the thirty." Diana is very rich, vinous and sweet, with an agreeable peculiarity of flavor. Allen's Hybrid is sweet and pure; but it seems deficient in "vinous refreshment." It improved, however, greatly the last few weeks; and in a warmer season, no doubt, would reach a much higher excellence. Rebecca is excellent; ripening thoroughly, even to the skin; and by some is preferred to the Allen. Elsinburgh is the smallest of grapes; rich, sweet and pure; too raisinish for my taste, but worthy a place in every choice collection. The Herbemonts are maturing; and about the 25th inst., if patiently waited for, will be on hand with a flavor as pure as can be

found on the face of the earth, and a vinous energy which no one can forget who has been refreshed and exhilarated by them as often as the writer. My Catawbas ripened as well this season as they ever did; but retained the tough, acid centre; and the Isabellas, insipid as ever, making me marvel at the avidity with which I used to devour them.

About twenty-five of these vines are growing in my yard, of 30 feet by 20, clear space, in which, after due concessions to domestic claims, I laid off a grape border about 45 feet long and 3 wide, beside the west and north fences; and another border, 12 feet by 5, a little in advance of the latter fence. Having selected the ground, my first business was to take up the stiff clay soil to the depth of 2 feet, and thoroughly incorporate it with a liberal proportion of old field sods, street-scrappings, plaster, coal-ashes, cellar-dirt, and sand. Then I procured from Dr. Grant, of Iona, New York, a selection of his choicest vines, and planted them agreeably to his instructions. They all lived and made satisfactory growth in 1864; some reaching a height of 10 feet. Cutting them back to two or three eyes, the second season I permitted one shoot to grow on each; and when these had reached the proper elevation, pinched off the terminal buds, to develop the two highest laterals, and from them grow the permanent arms of my vines. After testing various other plans, I submit this as the surest and readiest mode of obtaining the arms. Last spring, having in most cases obtained the two arms for each vine, I cut these back, permitting each arm to produce only 2 or 3 fruit-bearing canes; two are preferable, unless the vine has remarkable vigor; and now, at the end of the third season, most of my pets are occupying the portion of the trellis designed for them, having produced as much fruit as they could safely mature, and with ample

reserve space in which to grow and expand for the next five years.

Possibly, some one may wish to know how I could find room for these vines in so small a space. My method was to plant the vines about $2\frac{1}{2}$ feet apart, and to train them in four courses on the trellis, one above another; setting up stout posts to support the four horizontal bars, the first placed one foot from the ground, and the others above it at intervals of two feet. Each vine was grown, as to height of arms, &c., with special reference to the position it was to occupy on the trellis. And they were so arranged that those of the third course should be just over those of the first, and those of the fourth just over those of the second; each vine for the higher courses being carried up to its place *behind* the horizontal bars, so as not to interfere with the lower vines.

Each thus has a space on the trellis nearly 10 feet long and 2 feet in height. By careful winter trimming and summer pinching-in, almost any vine, when old enough to fruit, can easily and profitably be confined within this space. And should a long-jointed Isabella or Herbemont aspire to reach its neighbor in the next higher course, it may safely be passed *behind* the bar assigned to the other, and permitted to expatiate at pleasure. The arms may be lengthened by 2 or 3 buds each season; but this must be done intelligently and cautiously. If too great an addition be made, the older spurs on the arm will suffer, as the sap seeks the extremities. In everything that pertains to the vine, *festinus lente*, is one of the best maxims we can follow.

“GREELEY PRIZE” ON GRAPES.

THE committee appointed by the Horticultural Association of the American Institute to award the prize of \$100, offered by the Hon. Horace Greely, President of the Institute, for the best grape for general cultivation beg leave to report: *First*, that it is a matter of regret that the offer has not called out more competition from the thousands of persons now usefully and profitably engaged in the production of this delicious fruit, of which there were but five varieties presented for our examination at the late session. *Second*, one of the conditions of the offer was, that samples of the fruit be presented for examination by the committee, and therefore we were restricted to the consideration of such varieties as were brought before us. *Thirdly*, at a meeting of the committee held last year, a scale of points were adopted for our guidance in the decision on the grape. One of these points was the necessity of healthiness and hardiness of the vine and foliage, by which is meant its ability to withstand

frost and mildew. Excellence of the fruit itself is, in our opinion, a point of great merit, but of infinitely less consequence for the general planting community than healthfulness and vigor, hardiness and productiveness of the vine.

Fruit-growers are generally convinced of the importance of selecting such varieties as will prove profitable, and everybody understands what is meant by a “good market fruit,” although it often happens that such are quite inferior to other varieties in their respective classes.

We believe this to have been the object in offering the premium, and that we were to select from among those kinds that might be brought before us, such a variety that could safely be recommended to the millions to plant, with a tolerable certainty of being rewarded by satisfactory crops.—With regard to some of the new and choice varieties brought to our notice as competitors, it will be recollected that, at the meeting of the committee held in Septem-

ber, 1865, we declared ourselves unprepared to make any expression, because we had not then a sufficiently extended opportunity for seeing the vines tested under varying circumstances throughout the country.—Another year has brought us into farther acquaintance with the candidates, and better enables us to come to a conclusion, which, however, may yet prove premature. On these grounds, we have awarded the premium to the Concord, to exhibitor 33, W. X. Goldsmith, Newark, N. J., because we believe that, though of less excellence as a fruit than some of its competitors in their trial, it is found, under the most ex-

tensive culture in every part of the country, to be both hardy, productive, and satisfactory, in regard to its character as a vine; while the showy appearance of its fruit makes it most welcome to the millions, with whom it is very acceptable. For ourselves, however, we must be permitted to say that we wish the fruit were of a more refined character, in addition to the admirable qualities of this noble vine.

JOHN A. WARDER,
WM. S. CARPENTER.
P. T. QUINN.
E. WARE SYLVESTER.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

LAKE SHORE GRAPE AND WINE SHOW.—A correspondent writes us, giving the following short account of the Second Annual Exhibition of the Northern Ohio and Lake Shore Grape and Wine Association: "The meeting was held at Cleveland, on the 10th 11th and 12th of October, and was attended by a large number of grape-growers, not only of Ohio, but of other States. Hon. Marshall P. Wilder, Professor J. P. Kirtland, George Graham, Esq., Dr. J. A. Warder, Rev. J. Knox, Dr. C. W. Grant, and many other prominent pomologists, were there, and took part in the proceedings.

Notwithstanding the partial failure of the grape crop of old vineyards on the Lake Shore, the tables were literally loaded with bunches of well-ripened grapes, embracing something over thirty varieties of out-door hardy sorts, and eighteen of foreign character, grown under glass. Of this last, the best collection was grown by Mr. W. T. Harding, of Cleveland—a gardener of practice and knowledge equal to the best, and now open to an offer of engagement.

Of seedlings, new, named, and unnamed, the Walter, Saratoga, Modena, and Detroit were all that received much attention.

The Walter is similar to the Delaware; a little more sugary; more pulp; a trifle larger; looser bunch; claimed to be perfectly hardy; of vigorous growth, with wood of close firm texture, resembling in color Delaware; free from all diseases; and to ripen its fruit from 8th to 20th of August; and so rich that, if kept, it will not decay, but dry up like a raisin.

Saratoga so much resembles *Catawba*, that, were it not for the statement of one or two good grape pomologists, we should incline to the impression that it was that variety, only grown in a sheltered locality. If, as claimed, it ripens in all places earlier than *Catawba*, it will prove valuable.

Modena is a small black grape; loose bunch; claimed to ripen with Hartford Prolific; of good quality; but with the many black grapes competing with it, such as *Israella*, *Adirondac*, &c., there are doubts of its growing very rapidly into favor.

Detroit.—This grape was found growing in a garden in Detroit about six years since, and the present owner says has yearly ripened its fruit nearly as soon as Delaware. The fruit is of the color of a well-ripened Delaware or Catawba; has very little pulp; is sweet and rich, with a Catawba flavor; bunch full medium size, say one-half larger than Delaware, and very compact. The vine is stated to be a vigorous grower, never had any protection and never been injured by winter frosts.

Hon. Marshall P. Wilder exhibited nine numbers of Rogers' Hybrid grapes, but specimens of No. 15, grown in Cleveland, were acknowledged to be superior, in size of bunch, berry, and in quality, to any ever before exhibited. This and No. 4, from the exhibition of specimens here, gave many a grape-man a new and correct impression of their great value.

Adirondac, grown on the Lake Shore, was on the tables; and while the bunches were not as large as we have seen, the berries were large, and the quality such, that the exhibitor had to watch carefully, in order to keep enough to show the committee.

Ives' Seedling was on exhibition, and, in discussion, it was stated that it was a rapid healthy grower, growing freely from cuttings; a great bearer, yielding five times as much as Norton's Virginia, and second only to that variety as a red wine grape.—The yield was stated at 530 gallons to the acre, the weight of must ranging from 80 to 88, and its acid 8 to 10 per cent. The fruit this year sold in Cincinnati at \$13.75 per bushel.

The Iona was a long time under discussion. Its exhibitor from Iona Island stated that, as the vines grew older, the fruit ripened earlier than on young vines, and that when packed and transported, on opening held well, *i. e.*, did not drop from the bunch.

In the discussion, the testimony from several growers was, that, on clay ground, it dropped its foliage early in midsummer, and hence did not ripen its wood. Other

testimony gave it, as well as some other sorts, a character of not ripening fruit or foliage on light loose soil, where the roots ran deep. Good, rich, loamy clay seemed to show it up in its best light.

In some remarks relative to the Rogers' Hybrid grapes, Mr. Wilder said they were all strong vigorous growers, and must in their training have plenty of room. That he knew a vine of No. 4, five years planted out, which now covered a trellis seventy-five by eleven feet, and that this year fruited 800 bunches of grapes. The vine, of course, was well supplied with food. In this connection, Mr. W. did not think No. 4 should be compared with Concord, as he did not regard the latter of standard quality. In the market of Boston, his No. 4 sold at 35 cents a pound on the same day as his Concord at 20 cents.

Mr. Knox regarded the Concord as the most valuable variety in the country; and, in inviting all interested in grape-culture to attend his grape show on the 17th and 18th instant, said, of thirty-five sorts, that he would show, the Concord would speak for itself.

The partial failure of the Catawba in the old vineyards on the Lake Shore was brought up, but testimony, as heretofore, mostly favored the over-bearing of previous years as the cause.

The laws of Ohio for prevention of adulteration of grape wine were read, and the practice of Dr. Gall strongly denounced, as well as its practitioners, by Messrs. Griffith, Warder, Leonard, and McCulloch, the latter of whom advised the transferring low grade wines to vinegar, rather than raise them by means of foreign agents. Mr. Griffith introduced a resolution, making obnoxious to grape-growers, and the pomological world generally, the offering for public favor any new grape until its merits have been passed upon by some competent association.

Mr. Elliott hoped that hereafter originators of new sorts would be required to present a test of the weight of the must, its

acid, alcohol, &c., before obtaining favor from committees or journals. Such test, he thought, very important to the grower of grapes for wine.

One evening during the session was pleasantly devoted to listening to instructive as well as humorous remarks connected with grape-growing and other pomological pursuits, from Hon. W. P. Wilder, Professor Kirtland, and others.

Before closing the session, a resolution was offered expressive of the wish of the Society to have Mr. Rogers give to his numbered grapes special names, that hereafter there may be no more confusion.

CARE OF TREES RECEIVED FROM THE NURSERY.—At this season, many of our readers will undoubtedly be receiving trees and plants from the nurseries, and a word of caution as to their care on such reception may not be amiss. We know many a person to have received trees in good order, but from want of care on their receipt, or injudicious care, to have lost nearly all. Should your trees arrive in a cold frosty time, place the bundles or boxes, if possible, at once in a cellar or pit, where the temperature is above freezing point, and there let them remain packed, just as received, until a warm moist day will enable you to open and transplant them; or if you choose to open them in the cellar or pit, do so; but in taking them out for heeling-in, wrap the roots carefully from a drying, cold, harsh wind, or a clear burning sun. Should your trees arrive in a frozen condition, if they are in bundles, bury them, just as they are, half a foot or more, or below the frost, in the ground. If they come in boxes, and are frozen, and you have no cellar or pit to place them in, prepare a trench, one and a half to two feet deep; then open the box, and, taking them out as much in bundles as possible, lay them, tops and all, down in the trench, and cover at once with earth. Leave them there a few days, or until a cloudy warm day occurs, when they should be taken out and carefully heeled-in

for winter quarters, or planted out in their permanent location. Bright clear sun, or a cold, frosty, dry wind, are either very injurious and often are death to trees taken immediately from the packing-case or bundle.

GRAPEVINES out of doors, in vineyard, or about the house, should this month receive their pruning back for the next spring's growth. As to the exact number of buds to be left on each cane, the number of canes to a vine, much, of course, notwithstanding opinions and rules, must depend on the vigor, age, and strength of the vine; whether it has grown feebly and matured a heavy crop of fruit, or vigorously without any fruit. No universal rule can be laid down for vineyard pruning, but each man performing the work must study general directions, and then follow good common-sense principles, with knowledge of vegetable physiology. Our pages have abounded in practical articles on grape-culture the past year, and yet presume many will forget that their Concord vines will endure to have more than double the length of wood left on them than the Delaware or Rebecca; Norton's Virginia and Clinton, Ives's Seedling, and others of that class, will bear even longer pruning than the Concord, and treble that of Catawba or Isabella.

Vines that have borne heavily the past year should be pruned back more severely than those which have only expended their strength in growth.

Records show that extra product of this year, as a rule, is exhibited in reduced product, loss of vitality, disease of vine, or rot in fruit next year. Occasionally, if a favorable fall has occurred, and stimulating manures applied, this exhibit does not fully show itself for a year or two, or more after the first overcrop; but its results will come sooner or later, and the common-sense man will try to aid Nature in her recovery of vitality, by reducing opportunity for continued exhaustion by reason of fruiting.

Good vines of Concords, on the simple

trellis of wire in vineyard, will carry their canes of four to six feet, while Delawares will not bear more than half that length, and yet set more bunches, because of the shorter-jointed wood.

With these remarks, we shall recommend every grape-grower to buy and read one or more books of modern writers on grape-culture.

LOW BRANCHES.—Whatever you may do in pruning your newly-planted trees this fall, or your old orchards, don't by any means cut away the lower limbs.—Let the limbs branch low from the body, no matter if they almost or quite rest their ends upon the ground as they grow. These limbs will shade the crown of the plant, keep the roots moist, and the tree, in one-half the time, will have increased to double the size of one where the limbs have been pruned away from the main stem to a height of from five to eight feet. We know of an apple orchard that changed hands five years since. It was then six years planted, and the planter had grown his trees with low branches, so that at the time they completely shielded the bodies and roots. The new owner went at once to work, and trimmed every tree up to some eight or nine feet, put a boy on a horse, and man to hold the plough, and broke up the ground and roots as near the trees as he could, cutting away every limb that interfered with the boy on the horse. That orchard at this day is one-fourth dead, and the remainder of the trees do not cover as much surface-ground as when the present owner purchased it.

HOUSE FURNITURE.—At this season of the year, new carpets are often procured; curtains are renewed—that is, the lighter ones of summer are replaced by heavier ones of damask, &c., for winter—and often new furniture throughout for the room is procured. Now, we wish to offer one suggestion to our rural friends; and as we are all practical in our table matter, our suggestion

is of that kind. Before you buy any new furniture, think of its use. Remember that a shiny convex hair-cloth sofa, too short to lie down on, and too slippery to sit on, may do for show, but never for your family comfort. Remember that a marble-top table, with a plain, white-painted wood-work and wall of white, without pictures, is not in keeping, however artistic or beautiful it may be in itself. Think well of your wants, of the association of your furniture with your pecuniary means, and above all, with the use and comfort obtainable therefrom. Do not buy high-backed, stiff, hair-cloth chairs, when you can enjoy more real comfort in a splint bottom wood, simply varnished, and procurable at one-fourth the price. Do not buy a pair of vases, with pictures painted on them professing to represent China scenes, at a high price, and place them on the wooden mantelpiece, where they are all out of character in their false representation. Do not buy a carpet for a small room, with a pattern scrawling like a schoolboy's earlier penmanship, in forms and figures all, every, but yet nowhere. Let all carved work, in chair or table, mantel or cornice, alone, unless you have wealth to carry out all in keeping.—Leave out knicknacks of all sorts; and remember that your own comfort, and that of your family, is obtained by a free use and enjoyment of all you have around you, and that plain, substantial, and appropriate patterns and colors, without gilding, are always best received and appreciated by your friends or enemies, and that they really contribute most to your own enjoyment.

GERANIUM and other plants, taken from out of doors and potted for sitting-room decoration and enjoyment, should be but sparingly watered this month. It is best to keep them where they will receive only the morning sun, and in a cool just above freezing temperature, rather than, as is often done, place them at once in a warm room.

MAKE all the planting you can in this month. Heavy soils work much easier and better now than in spring; and light sandy soils, if now worked, pack closer than when handled in spring. Again, all, or nearly all trees, fall planted carefully, go on healing their broken roots, and fitting themselves for the draft of spring growth.

In landscape planting, think which you will prefer—the immediate effect in a crude manner for show, three to five years; or an imperfect and comparative baldness in effect, for two to five years, with a then filling up and outlining by growth of tree and plant, to result in the true and happy effects of the artists original plan. The first costs more than double in plants and labor of that of the latter, and unless the plants are judiciously thinned out from time to time, afterward results in anything but a pleasing character to grounds. This thinning is a matter generally neglected, as improvers of new places become more or less attached to each tree and plant, and dislike to cut away, even when their judgment tells them plainly it should be done. Our advice is, to plant only permanent trees for the first year or two on a new place, relieving the barrenness of the grounds for the time being with dahlias, hollyhocks, &c., for immediate filling of the groups.

WINTER PROTECTION TO PLANTS AND TREES.—Many of our shrubs, vines, and especially young ornamental evergreen and other trees, although quite hardy in some winters, are again, by some extreme temperature of only a night or day, killed quite to the ground when left fully exposed. A slight protection of hemlock or other evergreen branches, stalks of corn fodder, ordinary branches of deciduous trees, plaited in with rye straw, and set around the plants or trees, to shield them from both wind and sun, will often render plant or tree hardy while becoming established, that, without such protection, would be discarded as valueless.

FUSCHIAS, commonly called Ladies' Eardrop, are easily kept throughout the winter, and if planted where they receive only the morning sun, form one of the most beautiful of summer-blooming plants that decorate the garden. When taken up in the fall, all that is requisite is to see that the roots are covered in the soil, and that during the winter they are just a little moist, never wet, and always free from frost. An ordinarily dry cellar, dark, will generally keep them perfectly, without any attention.

GRAPES TO KEEP WELL, and be really good when opened, should be fully ripe, not simply colored; in other words, they should remain on the vine just as long as the weather will admit; then gather carefully, handling them only by taking hold of the stem; lay them in a cool dry room, in tiers of three layers; leave them two days; then pack in shallow, tight boxes, holding about twenty or twenty-five pounds, layers only two deep; lay paper in around the whole inside the box, between the grapes and the wood; nail up tight, and set away in a cool dry room, free from frost.

TREE PLANTING may be continued all this month, or until the ground becomes frozen. All dry soils work better and easier in fall than spring and all hardy trees succeed as well, or better, transplanted in the autumn. Hardy shrubs, also, should be transplanted at this season; and perennials may also be divided, and successfully transplanted. Over all the latter, spread a light covering of straw, bean haulm, &c., to prevent the frost from heaving them out, and around each tree and shrub draw up a slight mound of earth.

LAYERS of vines, shrubs, &c., are better to be taken up and heeled-in to winter quarters than left on their parent plant. In heeling-in, as we have before said, select a dry spot of ground, and shield it from the sun's rays after nine o'clock in the morning.

POULTRY should have a warm roosting and laying room, and a sheltered sunny spot for day recreation. Give them food of varied grains, as barley, corn, wheat, and oats, mixed, and kept always by them, or accessible to them. See that they have plenty of broken oyster shells, lime rubbish, coarse sand gravel, &c., and dry sand or ashes to dust themselves. Every fowl should have one foot of space for roosting, and the roost should always have a good ventilator for escape of foul air.

Place dry ashes in the bottom of the nests, and where you can, form the nests of dry moss.

SELECTION OF ORCHARD SITES.—Those who are about forming new orchards should study well the location, remembering that an elevation of only a few feet often renders a location free from frost, and thus insures the crop of fruit. Again, it is not only that the hills are more exempt from frost than valleys, but that the increased temperature of the valleys in summer causes a more rapid and succulent growth, less capable of enduring uninjured the severity of winter.

SET OUT ONE MORE TREE.—This recommendation we heard a friend of ours giving a few days since. He said every man, almost, could find room in his grounds for one more; and that, ere he became aware of it, one or more of his present stock would die out, and then this additional one would make all good. Now, like our friend, we say to the readers of the *HORTICULTURIST*, find room for one more choice fruit-tree, and perhaps there is yet a space for an additional flowering shrub. Plant it now.

Be careful to leave no fence corners or by-places occupied with small or large heaps of rubbish of old melon vines, bean haulm, &c., for these are almost invariably the harbors of insects, and if left, they will cause you to regret your neglect another season.

IN forming footpaths or carriage-drives in a new place, if you have not obtained the advice or aid of a landscape gardener, which you should have done, be careful not to get the curves too strong. A crooked path is, if anything, more objectionable to the eye of taste than a straight line. Let all your curved lines exhibit a reason for diverging from a straight course, and let that reason be apparent to the mind of the most thoughtless.

ORCHARDS that have been many years in grass, as well as the trees in young orchards, will receive far greater benefit from plowing the ground, and leaving it in a rough state for action of the winter's frosts, than if the work is left until spring. After plowing, go round to every tree with spade or hoe, and clear away all grass or weeds, &c., immediately next the body of the tree, so that mice may not harbor there and girdle them.

ALWAYS have a work bench in your wood shed or a part of your barn, if you cannot afford a room purposely as a tool and work-room. A few tools of the common kinds, a triplicate of saws, some chisels, two planes, &c., will enable yourself, or your man-of-all-work, to fit up and repair, or make many a thing that if you had to hire a carpenter, you would never think of having, because of its cost. Labels, stakes, melon boxes, &c., can be made up in stormy days of fall and winter, at a great saving.

ALL clay lands, and we may say all good garden lands, if dug or plowed deeply, and turned up rough, and exposed to the winter's frosts, will improve in quality full as much as the covering of one coat of manure given and worked in spring.

LOSE no time in attending to the gathering and storing of roots of all kinds. Cabbages, celery, &c., should at once be trenched, and prepared for early obtainment in winter.

SHAKER RUSSET POTATO.—Among the many varieties of potato that we have grown, none have given us better satisfaction than one known as Shaker Russet. It forms large tubers, fit for eating early in the season, and that when cooked are dry and mealy, and yet it continues growing until near the very last of the season, producing abundantly, and nearly all of large-sized tubers.

Wood ashes, distributed freely on lawns, will serve to enrich, render compact or loose, as the soil is sand or clay, and stimulate the roots of the grass. The rate of 200 bushels to the acre will not be too much on worn-out lawns, or those in which wild grasses have come in.

ALL the paths around the house and grounds should be carefully cleaned this month, and any little repairs requisite to comfort about the house and grounds made, that comfort and security from storms, &c., may be had during the cold frost and storms of winter.

As every ruralist is supposed to have a horse and cow, we must remind them that warm and dry stables are a great preservative of their health, and that all saving of animal heat, by having a warm room, is a saving of food.

GROUND for new lawns may continue to be prepared any time until frost prevents the labor, but it is too late this month to sow the seeds of grass. Dig and trench the ground deep; work in plenty of well-rotted manure, and leave the whole as loose and light as possible, for action of the elements and the air during winter.

A **BOQUET** of flowers may be kept fresh a long time, by sprinkling freely with water, and then placing them under a glass shade. If you have no shade, sprinkle the flowers freely at night, and shut them up closely in a covered box.

CULTIVATE THE ORCHARD.—By some the practice of cultivating the ground around orchard trees is questioned, as of, at least, doubtful propriety. Their claims as to its value are, that our young orchards, under regular culture of plow and hoe, are more strong, and less injured by insects, than those that have been left in grass. They also claim that, by stimulating the growth of the trees by cultivation, they are more liable to blight, and destructive to the tree.

How far such views may be sustained in practice, we know not; certainly, in our observation, they are not tenable. We have found the fruit in most uncultivated orchards to be small and knotty; and, when the vigor of the tree has been checked by a close compact sod, if any growth occurs from an unusually growing season, it is generally water sprouts, filling up, choking, and diverting the vitality of the tree from its true and legitimate channel.

We do not believe in breaking the ground deeply, tearing asunder roots of half to an inch in diameter, and especially those near the crown; but we believe the ground kept light and loose, two to four inches deep, and stirred often during the season of growth with the cultivator or Shares' harrow, will give a healthy growth, prevent in a measure the increase of insect life, and render the tree hardy, and capable of enduring extremes of temperature in the best manner.

ASPARAGUS BEDS, if not already done, should at once have the old tops moved and cleaned off, a good dressing of salt given, and the whole covered with half-rotted stable manure, say three inches deep.

BEAN poles, dahlia stakes, &c., should be gathered together, and stacked away carefully for another season.

AZALEAS should be kept cool during winter. The cooler they are kept, and yet free of frost, the better will be the flowers in spring.

CHARLES J. MAY, of Warsaw, Ill., has sent us samples of Iona and Delaware vines, of extra fine quality, which we shall plant out and care for with our best skill. If the vines grow as vigorously as their appearance promises, they will overtop our trellis next summer.

DO NOT attempt to group small-growing shrubs or trees with those of lofty natural habit. A few years will show the error and the loss in effect of all the trees so planted.

GERANIUMS, if kept at a low temperature during the winter, require very little water; and so kept, when put forward in spring, their growth is like magic, and their bloom profusion.

BE CAREFUL in creating fire heat in the greenhouse at this season of the year. Keep the temperature as cool as possible, so it is above the freezing point.

DON'T be afraid of the spade in preparing holes for setting trees. Large wide holes, and plenty of good soil, in place of sand, gravel, or poor clay, will repay well the labor.

"WRITE FOR THE POOR."—We have had quite a number of letters, asking us to "give more of matter in our table, directly for the interest of those who have no special garden, gardener, or greenhouse, but who, at same time, live in the country, and love both flowers and fruit." Some of our letters complain that "too much of the monthly magazine instructions are written apparently by a greenhouse man, and without thought of doing anything except by means of a practised gardener."

We do not know but these complaints may be just. All we can say is, that we ourself are almost daily among just the people who love flowers and fruits, and who perform their own labor in the simplest and plainest manner. We go among them, be-

cause we love to chat with them, and because we, as a rule, gather more ideas than in our other associations with professional gardeners. True, these ideas are sometimes crude, and occasionally hint at practices new to the promulgator, but by us known long to have been tried; but they set us thinking; and when we get back into our library, with pencil in hand, we have tried to write plainly for the use and benefit of the unpractised. We hope we have, at times at least, succeeded. It is our desire to aid the uninitiated by practical matter, and to give hints to be seized hold of and improved on by the practised amateur or gardener.

We shall be thankful for any suggestions, and are always ready to answer questions.

WINTER CLOTHING.—It is not, perhaps, in our line, as horticulturists, to write about what we shall wear; but yearly we see so much of error, as we count it, in the matter of clothing the human frame, and especially in that of the female portion, that we cannot avoid writing just one word.

As a people, we are proverbial for heating our rooms in winter. We raise the heat, dry and harsh, in our rooms of a winter's day, when the temperature outside is 10°, to a range of 80° to 85°—just such a temperature as in summer we call oppressively warm. We pass from the one temperature to the other with a shiver or a feeling of oppressive warmth, and find ourselves nearly all the time suffering from severe colds.

Let us here urge upon our lady friends, and upon the children, the use of more clothing, so that, in passing from the warm room to the cold air, or *vice versa*, the shock will not be perceptible. With this use of more and warmer clothing, the use of woollens—not light thin muslins, and gauzes, we would soon find a temperature in our rooms of 62° to 70° far more comfortable, and far more healthy, giving us little or no shock in passing from the one to the other, and carrying us through from month to

month, without colds, neuralgia, or other troublesome ills, consequent, as every physician will tell you, upon sudden shocks in temperature to the system.

WOODBURY, Conn., Oct. 1, 1866.

Messrs. EDITORS—The grape crop in this region, as well as other fruits, this season is a failure. Twenty degs. below zero, and no snow in January, and heavy frosts on the 15th and 24th of May, seem to have been too much for the fruit buds. Our opinion would be expressed about as follows: First, Concord gives a good crop; no disease or mildew; nothing less than the explosion of a 13-inch shell in its vicinity would injure it. Hartford is, like Concord, free from mildew, but not worth cultivating while we have something better. N. Muscadine, also free from disease, and a better grape for *us* to eat than either the former. Union Village too late. Rebecca—feeble grower; never fruits. Anna has grown one inch a year for the last six years, and of course no fruit. Diana—a vigorous grower, no mildew and have received about one grape annually for seven years past; but, as Jacob served twice seven years for Rachel, so we shall wait on this coquette Diana seven years more, hoping she will yield in time. Catawba is free from rot and mildew; ripens its fruit uniformly every year; vine is on the south side of house. Delaware is by far the best grape yet cultivated and fruited; vines have mildewed badly for two years past, but have, nevertheless, given good crops of well-ripened fruit. Iona and Israella have not yet fruited (second year); they made a good growth last year, but this season have mildewed badly, and most of the buds pushed feebly; hope to fruit them next season.

Single-eye, one-year-old plants make a better growth, and I am confident will fruit sooner than vines described by the Lieut.-General (whose head-quarters is at "Iona, near Peekskill") as "vines of extraordinary quality and value, grown in

pots," &c., and which, in the height of my grape fever, I expected would fruit *immediately*.

In conclusion, I would say, plant *one* Concord, and from one to ten thousand Delawares, and twenty thousand Ionas, if the latter fruits as well as Delaware. I am waiting patiently for the doctors to agree on an early grape. Whether that will be Israella or Adirondac no one seems to know.

Your's truly,

ELI SPERRY.

READERS of the HORTICULTURIST—you grape-growers, I mean—have you grapes? Have you more grapes than you can sell? more grapes than you can at present eat? If you have, let me tell you how a neighbor of mine keeps Catawba grapes until the 1st of April as nice and fresh as the day they were gathered from the vine, so that you may go and do likewise with your surplus. First, he gathers his grapes, when fully ripe, on a clear dry day, and lays them on the floor of his attic, there to remain eight or ten days. They are then carefully looked over, taking out all decayed berries (these will be few in number), and placed in boxes or barrels, in layers of one bunch in depth, with alternate layers of finely-cut wheat straw, *perfectly* dry. When full, the boxes and barrels are nailed up and placed in a cool room, where they are left until in danger of freezing. (Usually about the middle of December.) When cold weather comes on, he places them in his pantry, (connected with the kitchen) where they remain until used or sold. The atmosphere in the pantry is always dry and cool, and the temperature gradual, ranging from 45 to 50 degrees; and here is the secret of his success. I have eaten Catawba grapes at his house in March having an appearance as fresh as the day they were gathered, and I know they were luscious.

And now, as I have told you how he keeps them, would you like to know how he grows them? His vine is the oldest in

our neighborhood of that variety; stands on clay soil, with a subsoil as retentive of water as a wet sponge. It is trained to the east and south side walls of his house, and covers an area of at least 1200 square feet. It has never been manured except once. Three years ago, one bushel of unbroken bones were placed around it. He prunes gently, and receives yearly enormous crops of the most handsome Catawbas I ever witnessed. I never knew this vine to miss fruiting. For the last three or four years its yield has been twelve to fifteen bushels.

Another vine growing near this is trained to a trellis, and is pruned severely, in order to confine it to the trellis. Two years ago, a branch shot up into a cherry tree from this vine, and the difference in the quantity quality, and appearance of the fruit, between that grown on the branch unpruned and rambling at will through the tree, and that grown on the vine pruned and trained to the trellis has to be seen to be believed. It is a fact that the branch in the tree produces four times the quantity, and the quality and appearance are so vastly superior that comparison is preposterous. Now, I always did advocate with the Catawba long pruning, and what I saw, during a little trip the past season to some of the principal grape regions, where the Catawba is and has been grown extensively, fully convinces me that I am right. It may be I am wrong; who will say I am?

JOHN H. JENKINS.

East Bethlehem, Pa., Oct. 15, 1866.

BOOKS, &c., RECEIVED.

"OUTPOST" is the title of a novel, from an American pen, soon to be published by J. E. Tilton & Co. From a glance over the proof sheets, we should judge it would make its mark. The freshness and originality of the style, incidents, and characterization, show an unhackneyed mind.—The childhood of the heroine is represented with a mingled pathos and humor, such as we have not noticed in romance since Dick-

ens' Little Nell, and Mrs. Stowe's Eva.—*Boston Daily Evening Transcript.*

PEAT AND ITS USES, by Samuel W. Johnson, A. M. Orange, Judd & Co., N. Y. Price, \$1.25.

This work treats of Peat both as a fertilizer and as a fuel.

Part I. Origin, Varieties and Chemical Characters of Peat.

Part II. On the Agricultural Uses of Peat and Swamp Muck.

Part III. On Peat as a Fuel.

The best modes of preparing and composting Peat for the use of the farmer are explicitly given, as well as the process of manufacturing into fuel. This last part of the work is fully illustrated with views of the various machines now in use both in Europe and this country for manipulating the Peat.

SECOND ANNUAL REPORT OF THE NEW ENGLAND AGRICULTURAL SOCIETY, 1865. We have received this book from Messrs. J. E. Tilton & Co., Boston, issued in their usual elegant style of binding and typography, and profusely illustrated with engravings.

THE HISTORICAL MAGAZINE, and Notes and Queries concerning the Antiquities, History and Biography of America. Edited by Henry B. Dawson. This long established monthly has been much enlarged since it lately passed into the hands of its present editor, whose well known ability as an author and historian is a guarantee that the character of the work will be maintained and its interest increased. Dealers supplied by the American News Co., N. Y., and mail subscribers by Henry B. Dawson, Morrisiana, N. Y.

THIRTEENTH REPORT OF THE OHIO POMOLOGICAL SOCIETY.

DESCRIPTIVE CATALOGUE OF GREENVALE NURSERIES. W. D. Strowger & Co., Murray St., Geneva, N. Y.

DEALERS LIST OF THE ERIE (PA.) COMMERCIAL NURSERIES. J. A. Plattman, proprietor.

CIRCULAR OF THE CANANDAIGUA (N. Y.) PROPAGATING ESTABLISHMENT. F. L. Perry, proprietor.

PRICE LIST OF THE WEST AVENUE NURSERIES, Rochester, N. Y.

PRICE LIST OF THE DUTCHESS NURSERIES. Ferris & Caywood, Poughkeepsie, N. Y.

PRICE LIST OF GRAPE VINES, HUMBOLT NURSERIES, Toledo, O. Lenk & Co.

MANUAL OF GRAPE CULTURE and Annual Catalogue. J. H. Foster, Jr., Westmoreland, Penn.

CATALOGUE OF BULBS AND FLOWER ROOTS. Henry A. Dreer, Philadelphia, Penn.

CATALOGUE AND PRICE LIST OF GRAPE VINES. John W. Bailey & Co., Plattsburg, N. Y.

CATALOGUE OF PLANTS and Description of the Kittatinny Blackberry. E. Williams, Mont Clair, N. J.

WHOLESALE PRICE LISTS OF REID'S NURSERIES, Elizabeth, N. J. D. D. Buchanan.

DESCRIPTIVE CATALOGUE OF PLANTS, VINES, &c. J. M. Price, Media, Delaware Co., Penn.

CATALOGUE DES OGNONS A FLEURS ET DES FRAISIERS. Vilmorin Andrieux et Cie., Paris.

CATALOGUE AND PRICE LIST OF GRAPE VINES. J. F. Deliot, Sing-Sing, N. Y.

WHOLESALE LIST OF HOOPES BROTHERS & THOMAS, Cherry Hill Nurseries, Westchester, Penn.

PRICE LIST OF PLANTS, TREES, &c. E. A. Baumann, Rahway, N. J.

PRICE LIST OF VINES. J. F. Martin, Mount Washington, O.

GRAPE CATALOGUE. H. B. Lum, Sandusky, O.

CIRCULAR AND WHOLESALE PRICE LIST. R. Halliday & Son, Baltimore City, Md.

VICK'S ILLUSTRATED CATALOGUE OF HARDY BULBS. James Vick, Rochester, N. Y.

PRICE LIST OF SMALL FRUITS. M. W. Johnston, South Bend, Ind.

CIRCULAR AND WHOLESALE PRICES. H. E. Hooker & Co., Rochester, N. Y.

PRICE LIST OF NATIVE GRAPES. H. Renison, Bloomington, Ill.

PRICE LIST. M. H. Lewis & Co., Sandusky, Ohio.

WHOLESALE CATALOGUE. John Saul, Washington, D. C.

CATALOGUE. J. W. Manning, Reading, Mass.

GRAPE VINES AND ROSES. Isaac Jackson, West Grove, Penn.

WHOLESALE PRICE LIST of Bronson Graves & Selover, Geneva, N. Y.

WHOLESALE TRADE LIST of T. C. Maxwell & Brothers, Geneva, N. Y.

WHOLESALE CATALOGUE OF UTICA UNION NURSERIES. John Best, Agent.

PRICE LIST of C. L. Hoag & Co., Lockport, N. Y.

CATALOGUE OF AMENIA VINEYARD AND NURSERY. Miss J. L. Waring, Amenia, N. Y.

WHOLESALE PRICE LIST. Dinger Conard & Co., West Grove, Penn.

THE HORTICULTURIST.

VOL. XXI.....DECEMBER, 1866.....NO. CCXLVI.

THE ORCHARD.

WHEN we talk of the orchard, it is usually understood that we have apples in our minds' eye; that we mean a good-sized field well planted with apple trees. If we go back to our verdant days and recollec-

tions, we find one grand paramount idea on this subject, and that is a big field, some ten or more acres, filled with old apple trees, exhibiting all sorts of odd and curiously-shaped productions of Nature. Here an old



FIG. 136.

patriarch, with a trunk as erect as a mainmast, and spreading his massive foliage over a quarter acre of ground; we never saw very much fruit on it at one time, nor did

we ever hear it called by any particular name; and what is more, we never cared to hear a name for it; 'twasn't worth a name. There's a good many such old chaps

standing around yet. Next neighbor to this was a queer old fellow, that at some time or other had got a diversion from the perpendicular, and led his trunk a long distance almost along the ground, but at a slight inclination before the superstructure of the tree commenced. We never understood the why of this, but in our boyish days it was great fun to walk up this old tree. We always thought he *grew* so; but, sad to say, our maturer philosophy was suggestive of September gales and old-fashioned equinoctials, confound them! This funny old fellow was our favorite; we never knew by what name he was called, but one thing is certain, not many of those apples ever found their way into the house. But we can't go through the whole ten acres. As to the rest of the trees, they were pretty much of a muchness.

There are, however, other orchards than apple-orchards since our youthful days.—Now we have orchards of the peach, the pear, and the plum. Those of our readers who have never seen an orchard of this last-named fruit may, perhaps, look upon the thing as somewhat mythical. Who is there, in this day of the curculio, that would be so bold as to plant an orchard of plums? We do not wish to put our veracity in jeopardy, but we have seen an orchard of this fruit, all in full bearing.

We have now in our mind's eye an orchard of plums, some four or more acres in extent, near Catskill Village, on the Hudson, just across the Creek, which, at the time of our visit, was a perfect miracle of health and beauty; every individual tree with clean bark, and weighed down with fruit, the picture of health and beauty.—On asking the proprietor how it was that he could have plums, and whether he never suffered any from the ravages of the curculio, his ready answer was, to the latter part of our question, "Oh, yes; but we have enough for ourselves and the curculio too." But be it understood that this is a locality peculiarly adapted to the smooth skin stone fruits.

As a general thing, the orchard is a much abused institution. It seems a bold undertaking nowadays to plant an apple orchard. As usually managed, we do most undoubtedly consider it such, and think the owner must be a man sanguine of long life, and big with hopes of fruition. We confess that, at our time of life, we should despair of ever tasting of the fruit of any apple orchard we should set out, and consider our work as done for posterity.

We remember, however, once expressing ourselves in this way to Mr. Charles Downing, on a visit to his model grounds. He pooh-poohed us with the encouraging remark, "I was older than you are when I planted these apple trees, and I expect to enjoy their fruit for some time yet." These trees were at the time in full bearing, and any other than an expert would have said they were nearly as old as the proprietor himself; but there are very few Downings among our fruit-growers.

The usual method of proceeding is to take a lot which has been cropped to death or kept in meadow until it is no longer profitable as such, and without further preparation than a simple breaking up of the ground, to dig so many *holes*, and plant your apple trees; then the grass is allowed to grow up around them, or the lot is seeded afresh, and annual crops of grain or grass taken from the soil. What wonder that orchards managed in this way never amount to anything, and that premature decrepitude follows? We have observed just such orchards, year after year, struggling for dear life, the proprietor growing gray waiting for his trees to grow. If they survive the first year after their planting, they live along, showing in course of ten years a misshapen and unsightly head, supported by a trunk of about three or four inches diameter, beautifully garnished with moss and knobs, and other excrescences; skin bound, and pretty thoroughly perforated with the borer—(all unhealthy subjects seem to be the special favorites of insect enemies). We have had some dear

experience in this line ourselves. At the time of setting out a number of young trees in an old orchard, two trees were planted in a spot, adjacent to which we subsequently put a cold grapery, the border of which was run close up to these trees. This border being very deep, and constructed with more than ordinary care, showed an immediate effect upon the two trees, which commenced growing very vigorously, and are at this day beautiful and symmetrical objects; fruiting well; large and perfect fruit; and to all appearance double the *age* and *size* of the trees in the orchard planted at the same time with them. These two trees have been a volume of instruction to us; they have shown us the conditions of success in planting, and subsequent management; and we have learned this much, at least, that it is worse than wasted time to plant an orchard without the most thorough previous preparation of the soil.

We would lay down these two cardinal rules in commencing the work:

1st. Select not a poor piece of ground, which you think you can spare for an orchard, but choose rather the best ground you have.

2d. After thus taking your ground, go to work and prepare the soil, just as carefully as if you were going to make a garden, giving especial care to the mechanical manipulation thereof. Depend upon it, there is no amount of pains which you take in this respect that will not amply repay you in the end, and you will not be long in the realization.

We look upon it as of the utmost importance to the future welfare of the tree, that it should have a good start in the beginning, and make an early and rapid growth. This will enable it to resist the attacks of disease and insects the better. We have observed, as a general rule, that insects attack unhealthy plants and trees in preference to the healthy and vigorous. People often wonder why it is that our orchards cease to yield as they once did, and why

new trees planted in the same ground won't grow.

There is no mystery about it. The soil of the orchard has been completely exhausted by constant cropping; every element required by the trees has been used up; and, as a consequence, there is nothing left for the old trees but sterile old age, and for the new ones planted among them, premature decay and languishing, until they find their way to the wood-pile. In replacing trees in the orchard, whether of the apple or the pear, when it is necessary to place the new tree in the very spot occupied by a predecessor, the greatest care should be taken to remove all the old soil. Enlarge the hole to double its former size, spreading the soil taken therefrom over the surrounding surface, filling in with new soil and properly-prepared compost judiciously commingled, keeping away from the young rootlets all heating and stimulating manures. In this way you will avoid all deleterious matter left by the old roots—all sick and unhealthy soil. The contrary course would be like putting a healthy person to sleep in the bed of a patient who had died of a highly contagious disease—say yellow fever—which inhuman practice would, in all probability, result in another case of the same disease, with similar fatal results. We merely mention the analogy, simply to show that there is not, after all, such a wide difference between animal and vegetable economy, and that when the rules and wisdom of the one, are entirely ignored in the other, the blunder will surely speak for itself.

We speak feelingly on this subject of the orchard, for we have been pained to see the amount of ignorance prevalent on the subject; to witness the malpractice in planting new orchards particularly; and this not among the untaught farmers alone, but among the wealthy rural gentlemen who expend large sums in the improvement of their country houses.

We commend this subject earnestly to the study of our intelligent readers, and

beg those who can afford to do so to set an example of a more intelligent and reasonable practice in this regard.

What we have written of the apple-tree and the orchard is equally applicable to the pear, and in fact to all other fruit trees.

We have heard enthusiastic rural persons speak of their interest in the trees they had planted about their estates, and which

had grown up around them to adorn their grounds, and give shade and shelter, and pleasure to the eye, as akin to that of parents in their offspring, calling them "my children." To all such, then, who plant orchards, we would say, treat and train them with the same zealous care you bestow upon your children, looking for a good return and a golden harvest.

DESIGNS IN RURAL ARCHITECTURE—No. 19.

BY G. E. HARNEY, COLD SPRING, N. Y.



FIG. 137.—*A Simple Rustic Cottage.*

THIS design represents a simple rustic cottage, for a family of small means. It is built of wood, filled in with soft brick on edge—and covered in the vertical and battened manner, with rough boards and heavy battens—care being taken in laying the boards on, that the splinters of the wood made by the saw in sawing from the log point downwards instead of upwards, to shade the water more effectually. The roof

is covered with shingles, and the projections of the gables, which are quite heavy, are relieved by ornamental verge boards sawn from heavy plank. The windows have all bold trimmings, and those on the lower story are protected by broad hoods, and glazed with diamond shaped glass. The verandah, or front stoop, is made with cedar posts and trimmings, but has a plank floor and a tight roof. The chimneys represented

are terra cotta chimney tops of large size, resting upon a blue stone base cut for the purpose.

The interior arrangement is as follows: The hall, No. 1, measures eight feet by eleven, and contains stairs to the chamber and cellar. The principal stairs are three feet wide, and the cellar flight is two feet



FIG. 138.

eight inches, inclosed by a partition with a door at the top. No. 2 is the living room, fourteen feet square,—provided with an open fire place for burning wood, and also having on one of its sides a recess or bay, with side lights only,—the back being made to serve the purpose of a book-case or cupboard. No. 3 is the kitchen, twelve by fourteen, well lighted by two large win-

dows, and having a large closet opening out of the side beyond the fire-place. No. 4 is a pantry, measuring five by eight, and opening out upon the back stoop. This pantry may have a sink in it, and may be fitted up with shelves and cup-boards.—Additional room may be got by putting the kitchen in the basement, and using the upper room as a living or dining room, and the front room as a parlor. This would give an opportunity for finishing the parlor in a little more expensive manner, and on that account may be more desirable.

The second floor contains two good sized chambers and four large closets. There is no attic to the house, but a space of about five feet in height is left above the chamber and below the peak of the roof—which serves a good purpose as ventilator.

The posts are fourteen feet high, and the lower story is finished nine feet high in the clear. The finish of the interior is all of pine, and put up in a simple manner. The walls are all plastered and finished with a rough white sand finish, which may afterwards be tinted in any desirable shade. The outside should be painted two or three tints.

GRAPES IN KANSAS.

BY A. M. BURNS.

IN looking over the *HORTICULTURIST* of October '66, page 318, I find that the members of the "Lake Shore Grape Growers' Association" attribute the cause of grape disease "in a great measure to permitting the vines to overbear," &c. As it is only from the experience of others, as well as our own that we can arrive at correct conclusions, I would say that the few—very few—mildewed berries on my vines this season were produced from vines that had never averaged two pounds of grapes during any year since they were planted (1860). They

were in 1863 and 1864 prevented from bearing more than one-fourth of a crop by the late vernal frosts, and in 1865 and '66, the rain which poured down in torrents, when they were in full bloom, knocked the flowers off the vines; while other vines, not then in bloom, which had borne enormous crops were free from any disease. I can account for the mildew in no other way than the vines were planted too close (6 by 8 feet), and were prevented from having the influence of the sun and air as much as they should have had in such wet seasons.

IVES' SEEDLING.

FIG. 139.—*Ives' Seedling.*

WE are indebted to M. H. Lewis, Esq, of Sandusky, Ohio, for bunches of this grape, from one of which our engraving was made. A full description of the grape, its origin, &c., will be found on pages 328, and 9 of our November number.

LADIES' EAR-DROP APPLE.

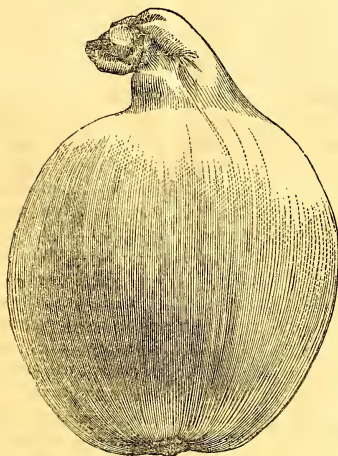


FIG. 140.—*Ladies' Ear-Drop Apple.*

THE apple from which our illustration was taken, was exhibited by Mr. John B. Tompkins, President of the Yorktown Agricultural Association, Westchester Co., N.Y., at the annual fair. "He describes the tree as a vigorous grower and great bearer. The original tree stands near Croton Lake, on the farm of Solomon Tompkins.

The apples are [all as nearly alike as so many peas, both in size, shape, and color."

Color, a beautiful lemon yellow, with a brilliant scarlet cheek; fruit acid, and of second-rate flavor. As an ornamental fruit for the table, this apple is not surpassed in beauty of appearance.

A BRIEF RETROSPECTIVE VIEW OF THE PAST SEASON'S FRUITS.

A YEAR of peace, free from din of battle or roll of drum for supplying a draft, we have been left to pursue our labors quietly; to prune our vines; plant and cultivate our seeds; revel in the fruits of our strawberry and raspberry grounds; gather abundantly of apples and pears; and in a word, while reclining under the shade of our vines, to feel thankfulness and rejoicing for the supplies so lavishly bestowed upon us by an unseen, yet by all acknowledged supremely benevolent Power.

Notwithstanding a winter of apparent mildness, yet in reality of almost unprecedented destruction to the vitality of vegetable life; and a spring opening late, yet we were enabled at once to go to work to plow and plant; and either from the improved quality of seeds sold by seedsmen, and the better quality of trees supplied by tree dealers, success was generally the rule in attendant.

Commencing with strawberries, although the uncared for beds, and occasionally those

of late planting and unprotected, yet the extent of plantations that were uninjured gave us abundance of fruit superior in quality, if a little reduced in quantity.

Quite a number of new sorts have been brought forward to public notice, and many of last year's introduction further tested; but among them all none that appear likely to displace the Wilson as a berry for the market-growers.

Raspberries were more injured than strawberries; and had it not been for the Black Cap, our Southern and Western friends would have had to treat imagination rather than their palates with this fruit.

Of the hardy kinds that have been well tested, the Kirtland and Philadelphia stand first among the reds; Orange, although partially tender yet, holds a prominent position among the light colors; and the Doolittle is the black.

Like the strawberry, this fruit has shown quite a number of new varieties, some of which give great promise of characters that will displace the sorts we have named above.

Blackberries, like the raspberries suffered from the last past winter in many sections; and so certain are the promulgators of two new sorts, that they are superior in every respect to varieties that we have heretofore been satisfied with, that we find ourselves too often dreaming over past scenes, when Lawton was in the ascendant, and wondering whether all then was real.

Currants, South and West, have this year been a failure; but East, we believe, a good, fair, if not full crop has been realized, and the character of many determined.

In gooseberries, no special novelty to our present memory has been introduced, but their culture has been shown to be, in the neighborhood of large cities, one of profit.

The cherry crop has been a light one, and, so far as we know, a singular one, in the fact that a few trees in orchards produced abundantly when their associates gave but sparingly. To the great storm

over the whole county, just when they were in bloom, we suppose we must attribute the cause, as most trees exhibited bloom in abundance. Why some should escape, however, and others not, when all were alike exposed, we confess is beyond our knowledge.

We do not now remember of any new sort of excellence having been introduced.

Apricots, unfortunately, are so sparsely cultivated, and the successful fruiters so limited, that we confess we have had but a few opportunities of enjoying their rich fruit this past year.

We are seriously of the impression that a fruit-house exclusively devoted to growing apricots would pay. It could be cheaply constructed, and the fruit always sold at very high prices.

Peaches, with exception of a few isolated cases, have been a failure at the West; a partial crop in the middle Southern section; and while a good crop South, so much affected by their long drought as to greatly lessen their value. We hear of no new ones of value.

Of plums and nectarines we have nothing to say, it not having been our good fortune to enjoy but a few, nor to read of productive crops obtained by others.

Apples, although not in profusion, have nevertheless been sufficiently abundant to meet the wants of the people at moderate prices, and at the same time they have been of superior size and beauty.

Trees, as a rule, have not been overloaded, but the fruit has been evenly distributed upon them, swelling and coloring to perfection.

A number of new sorts have been noted, but judging of their records, without an opportunity of examining and comparing, we doubt if any of the new sorts will supersede the older varieties.

Pears, like apples, although not in profusion, have nevertheless been abundant, and like the apples, have perfected themselves most surprisingly.

Many new sorts have fruited for the first time this year, and others have shown sustaining marks of their previous good characters. We hope to figure some of the new ones in our pages for the coming year.

Grapes, although much injured in the vines at the West and South-West, have, nevertheless, reported a fair average crop as compared with former years, owing, we suppose, to the extent of new vines just come into bearing.

The rot has appeared in some vineyards, but it has not been as general as last year.

East, the crop of grapes has been good, and everywhere they have ripened up bet-

ter than in the average of years.

Many new seedlings have been introduced to the public for their favor, while others somewhat highly lauded last year have not this season shown themselves. Possibly their owners are keeping them back to get stock for prospective demand.

The old sorts, as a whole, have fully sustained their characters, and a few have improved on acquaintance.

Insects and diseases, we think, have been less prevalent than usual this past season. If we except the blight in some sections West, we have heard of nothing beyond the controlling reach of the careful pomologist.

WILLIS' SWEETING.

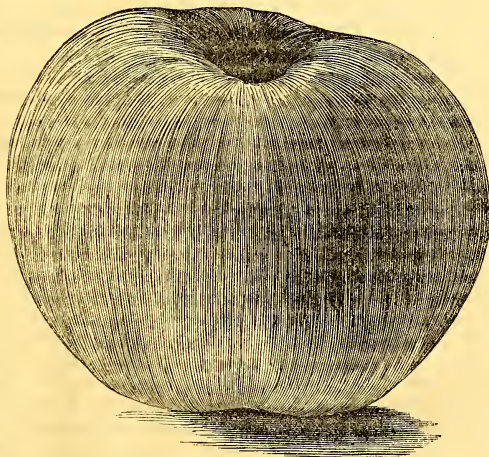


FIG. 141.—*Willis' Sweeting.*

WILLIS' SWEETING was found in crossing the fence on the farm of Edmond Willis, of Jericho Oyster-bay, L. I., about seventy-five years ago. It was called the apple of the Pear-tree lot—its usual name here.

Changed by Parsons & Co. to Willis' Sweeting. We consider it the best baking sweet apple known here. It is quite productive and is a long time in ripening its fruit. Season middle of August to 1st of October.

ISAAC HICKS.

STREET SHADES.

IF there is any one thing that beautifies and adorns the suburbs of our large cities, our large and small towns, villages and country roads, it is the numerous trees that have been planted from time to time as street shades by the hands of our enterprising, industrious and rural people. As a nation we progress so rapidly in the accumulation of wealth, that perhaps we may with safety be called a money-getting people; but, with all our love of money it has fortunately thus far in the course, been gained more for the enjoyments it would purchase, or the good the owner was enabled to do therewith, than for the simple, yet base, purpose of hoarding. Travelers abroad speak occasionally of the road-side trees—of a proportion being fruit-bearing, and of their fruit being untouched by thieves, etc., by the simple protection of placing a straw band, or some similar device, around the trunk by the owner to designate his wish that such tree be left for his own use, while from all the others the traveler may eat and refresh himself at will. When, however, travelers relate this truth and dilate upon it as a feature so superior to anything of this country, we cannot but think they have gone abroad before travelling over and learning of the beauty and hospitality of the States. We would be willing to place the old elms of Springfield, Worcester, etc., of Massachusetts—the elms, maples, etc., of New Haven, Connecticut, or even the younger trees of many of our Western cities, like Cleveland, Ohio, for instance, in competition with the street trees of any country; and whenever we find the man, who traveling along *asked* for fruits to eat and did not freely receive, we will abandon all our present belief in the amelioration of the rough points of man by means of his daily walks and labors in cultivating the fruits of the earth.

True, we have not a government so strict as to prevent unjust appropriation of fruits when growing upon our road sides,

and therefore the planting of fruit trees in isolated cases, by liberal, philanthropic men, has been to them a source rather of sorrow than joy. Not that they did not wish the traveller to partake, but that in taking there was often no partition, and also that in so taking they destroyed limbs as well as fruit, thereby disfiguring the beauty and proportions of the tree.

We say that we have not a government so strict as to prevent this wrong appropriation of the street fruits, but while a few cases of peculation of this kind occur, often we believe from an erroneous impression that all fruits of the road-side are public. How rare do we see a shade tree upon the road-side injured wilfully or even carelessly, and this too over an immense territory, with, in many places a roving population made up of all races, classes and conditions of men.

Our forefathers set us the example of planting street shades: as, witness, nearly all the older towns and cities of New England; and their example has been most worthily followed, as their children and children's children have marched towards the setting sun.

While we have no law to compel a man to plant a tree upon the road-side for every child born, we have, as a people so much of enterprize and taste, that no matter how Teutonic a man may be when first settling in a neighborhood, a short time only elapses ere his farm is bounded on its street side by noble elms or maples. Again, such is the taste and love of trees among us as a people, such the additional adornment to vacant lots of a few shade trees, that the land speculator, even, often freely expends his money for their planting. We have, it is true, in the preservation of our street shades which now beautify so many miles of our country, had to contend against depredations of roving cows, mules, horses, etc., but thanks to the courts, and more recently to some of our State laws, it is

fast coming to the comprehension of the multitude that our roadways are public property, only as they may be properly and soberly used as passage ways for all, and that otherwise they belong to the owners of the lands adjoining. When this feature is more generally known and adopted, our roadways and public pleasure drives may be adorned with terrace or lawn, in front of each man's land as may please his taste or suit the position.

More variety of trees can also be safely planted, and as the light wire fences, or well-trimmed hedges gradually take the place of heavy boards, rails or pickets, our roadways will present more the appearance of an extensive park, than path-ways to market.

Although our native elms and maples have their sway and are extremely beautiful, there are also other trees that at times, we think, would be better suited to the location about to be planted.

The English Elm, *Ulmus campestris*, appears equally hardy as our native, while its habit is more upright and compact, affording a shade almost as dense as the sugar or hard maple. Its branches are slender, but abundantly covered with small, deep shining green leaves that remain on until very late in November. For narrow streets in our cities, or for forming groups in grounds of limited extent, it seems to us better suited than our native white elm with its spreading, expansive habits.

The *Acer platanoides*, or Norway maple, is another tree of close, compact character in forming its head. It has rich broad foliage of yellowish green, that like our maple becomes red, then yellow in autumn. The young shoots being green make it extremely ornamental, also when out of foliage.

The European Sycamore, *Acer pseudo-platanus*, is, however, the foreign maple most desirable, because of its rapid growth, broad, clean, dark-green foliage, and perfect hardihood. It cannot be called a spreading tree, yet its proportions sometimes measure that

of large elms: it is, therefore, well adapted to broad streets or road sides, and for forming back grounds for trees of less magnitude in growth and of a lighter foliage.

The ash-leaved maple, *Acer negundo*, of Michaux, is a native that we have often wondered was not more planted. It is easily obtained, grows readily and rapidly, appears to endure patiently all positions, even to the coal-smoke of cities, is beautiful in its yellow-green young shoots when devoid of foliage. Its pale pea-green foliage forms a pleasing diversity and an admirable contrast with the sycamore in summer. For small grounds or positions where a too spreading tree would be objectionable, the ash-leaved maple is adapted. It affects moist situations, and transplanted grows most rapidly in moist, yet light soil.

The Tulip Tree, *Liriodendron tulipifera*, is another of our native trees, that has no compeer. Tall, stately, yet spreadingly graceful—every leaf and every branch a line of beauty. Its flowers are of many brilliant colors and so beautifully mingled with the rich green of the foliage as to make it of itself one immense elegant boquet. As a town street tree it is not adapted because of its dislike to have its roots trampled upon, but for country road-sides it is one of all to be most desired.

There are yet other trees that hereafter we may mention as suited for road-sides and the suburban streets of our cities, but we think it may not be well to say too much or enumerate too many kinds in one article.

The Horse Chesnut does admirably in some localities, and so also does the Linden or Basswood—neither of them, however, succeed well where pavements cover the entire root. But let your taste be what it may for kind and variety, do not forget that trees give shade, shelter, coolness, and with the dew at eve or early morn dropping through their umbrageous foliage, serve to inspire soft, sweet, soothing dreams that act as restoratives from the cares and troubles of life's busy world.

NOTES ON THE OCTOBER NUMBER.

LAWS OF ASSOCIATION IN ORNAMENTAL GARDENING.—I have, in previous notes, expressed myself so favorably upon this writer's subject, and his manner of handling it, that I hesitate to make the remark that came to my lips on reading this last, viz., "good ideas, but impracticable." Evidently the writer has never constructed a garden or planted trees and shrubs with thought of their harmony in foliage, habit of growth, &c. Association of ideas with the records of earlier ages as connected with the tree, is certainly a point that should be more cultivated; but it should never induce the planting of "a great variety of trees and plants from different countries and different climes," without a knowledge of their relative habits of growth, form and color of foliage, and constitution to endure our climate, to the end that they may, in after years present effective and pleasing groups. One ill-appointed tree in a group, no matter how beautiful in itself, or how pleasing and ennobling in its association, will often destroy the harmony of effect sought by the planter; while it is well to inculcate the love of trees and shrubs as connected with their associations, practically, the arrangement of trees and shrubs around one's home should first be made on paper by the landscape artist. As well might you expect every man to be capable of painting a good landscape, as to expect him to arrange trees and plants on his grounds to present when grown an effect pleasing to the taste, or in harmony with his buildings or the surrounding country. There are very few good landscapists. A man must be *born* with the requisite taste, and have added thereto by study and practice, to enable him so to arrange tree and plant upon a place that, at the expiration of twenty years, it will present a pleasing and harmonious result. At the present time, I venture to say that not one place

in fifty, throughout our country, is so arranged that, if left to grow twenty years, it would be regarded as anything but a wilderness, and the new proprietor would, immediately on occupation, commence cutting away, transplanting, &c., in order to obtain either harmony of growth or color of foliage. Many men are good cultivators, but very few are found who have carefully studied the law of harmony in colors, habits of growth, and association of ideas as connected with trees and plants. Every planter, no matter how small his grounds, should, before setting a single tree, have a map or plan prepared, on which the name and position of every tree and plant should be marked; and should he desire more trees or shrubs than could consistently be placed in his grounds, then let him set aside a plot in rear of his house, for the special purpose of growing such tree or plant as his taste or fancy, or the credit of the day, might render desirable.

A CHAT ABOUT EARLY SUMMER APPLES.—A good practical article; but the writer has left out one or two sorts that have many friends—the Primate, for instance, which is a delicious little apple, but too tender and delicate for any but amateur cultivation. For market purposes, the red color and a pretty thick skin are essentials to render a variety profitable.

LOW-PRICED COUNTRY HOMES.—Judging from the illustrations here given, the "Annual of Architecture" must be a valuable work. I wish you would send me a copy. If house carpenters, whose labors are mostly in the construction of cheap houses in the country and the suburbs of our young cities, could, each and every one, be supplied with a copy, judging from these cuts, it would soon result in an improved appearance of the country.

We all know that the house carpenter alone has the planning of a majority of cheap houses, and we also know that such

men, as a rule, do not read, have never studied a work on architecture, and during their whole lives follow out the ideas obtained practically when learning their trade. I hope the book has a glossary of architectural terms most in use. On its receipt, I shall show it round, and I hope everybody will purchase—not that I care so much for the book's success, but that the more the public in its lower walks become educated, the more is the safety and union of our country ensured.

NOTES ON MAGNOLIAS.—I presume the writer is correct in his premises relative to the greater hardihood and durability of the magnolia *conspicua glauca*, &c., when worked on the *acuminata*; but I also know that many growers are unsuccessful in budding or grafting. Cannot Professor Kirtland be induced to write us a short article, telling us how and when to bud or graft, &c., &c.?

Our good friend, Charles Downing, Esq., is, I believe, also a successful grower of magnolias budded on *acuminata*. Will not he tell us the secret of success, if any secret it is?

THE BIRDS OF BRIGHTSIDE.—A pleasant record; and while, with the writer, we confess to the love of birds and their songs, nevertheless it is terribly provoking to have them come in flocks, as the robins, cedar birds, and some others have, around us this fall, taking our all of Lydia, Rebecca, and some other grapes, of which we had but a few bunches, and then reveling at large on our Delawares, and finally our Catawbas.

The writer said he "did not keep a cat." I don't keep a gun, and so the birds got off with my grapes. But if I had owned a

gun, there is no knowing but that I might have committed some rash act birdward.

PULVERIZED CLAY AS A REMEDY FOR MILDEW ON THE GRAPEVINE—AND GRAPEVINE MILDEW.—Two articles, touching upon the subject of which I have already written my notes; and, as I then said, I am a "little of an unbeliever," and disposed to think we must look farther for permanent remedy of mildew than dusting with clay, sulphur, or any other advised specific. We must grow a vine as free from mildew and as hardy as the Clinton, with a fruit as desirable for the table as Iona or Adirondac.

BOX OR BASKET LAYERS.—Like the writer, I have noticed the expression that "basket layers were unmitigated humbugs," and, in the sense that I think that expression was made, believe it correct.

Viticola endeavors, and does explain wherein a basket layer may be made and transplanted profitably. I took the expression of "unmitigated humbug" as applied to basket layers, to apply to unscrupulous dealers who, in advertizing and recommending them, deceived the uninitiated grape-grower into paying an extravagant price for a plant that, perhaps, with extra care, after a transportation of a hundred or more miles, might possibly yield the first year a few bunches of grapes, but in all probability at a loss of the vine the following winter. No well-informed grape-grower would ever transport a basket layer any distance, and no honest dealer should ever recommend to the uninformed a practice that he would not himself perform. It is worse than stealing, because it destroys confidence in the culture of the grape, as well as in the honor of horticulturists.

REUBEN.

MR. NEUBERT AND THE ESSENTIAL OILS AGAINST GRAPEVINE MILDEW.

BY HORTICOLA.

BEFORE entering upon the discussion of the subject, I wish to call the attention of those interested in the matter to the spell-

ing and correct pronunciation of the name of a gentleman who is so frequently mentioned now in connection with grapevine

mildew. It is spelled as in the above heading, not Nubert, as I saw it lately in print. This wrong spelling has its origin in the English pronunciation of *eu*, which sounds like *u*. The *eu* in German has a sound similar to *oi* or *oy*, as in *boil* and *boy*.

Mr. Neubert is a scientific chemist. For such as are acquainted with German customs and laws, it is sufficient to state here that Mr. Neubert is an apothecary in the city of Leipzig, until very recently the very centre of profound learning. Its celebrated University was founded more than 400 years ago—1409. *Thomasius, G. A. Hermann, J. A. Ernesti*, and scores of other names, the mere sound of which fills with veneration all who appreciate erudition and are acquainted with literature, were professors in it, and count their pupils by thousands. An apothecary in such a place *must* be a scientific chemist. His daily intercourse with learned physicians and professors of medicine compels him to be a scientific chemist. Mr. Neubert is the owner of the White Eagle drug store in Hain Street (Hof-Apotheke zum Weissen Adler in der Hainstrasse). For such as are not acquainted with German customs and laws, it will suffice to say that a young man, who intends to become an apothecary in Germany, has to serve as an apprentice for four or five years; then for several years as an assistant; and finally he has to study chemistry, botany, mineralogy—in fact, all the natural sciences, in some university, to enable him to pass the most rigid examination before professors and practical men appointed by the Government. Such an examination lasts, including the time to be spent in the laboratory for the purpose of chemical analysis, required by the Board of Examiners, more than a month. It is conducted in writing and orally.

Mr. Neubert has nowhere said that the essential oils, water, and salts are a remedy against grapevine mildew. The object of the application of the mixture is only preparatory. Sulphur is the remedy.

We know from the very interesting experiments of Mr. de Comini, near Botzen, (Tyrol,) that the germs of the oidium lie, during the winter, dormant in the brown bark of the canes of the vine. He cut, in November, canes with dark spots, the effect of the oidium spores, and kept them in pots, filled with sods and horse manure, in a warm room. After seven weeks, the oidium appeared on those black spots, and covered, in a short time, the whole cane so treated.

The solution is applied to destroy the germs which lie dormant on or in the cane.

The mixture is not an invention of Mr. Neubert, but of Mr. Borchers, Superintendent of the Royal Garden in Herrenhausen, near Hanover, in Germany. Mr. Borchers is the author of one of the best manuals on pomology in the German language. I copied the recipe, a number of years ago, from the then last edition of Kecht's classical work on the vine. That Mr. Neubert has adopted it, speaks certainly for its efficacy.

The readers will permit me to clear up an uncertainty as to the component parts of the mixture. I give those of the salts in ounces, but in regard to the water I use the word "parts." I ought to have written *ounces*, in order to be unmistakably clear.

The quantity of the salts ($8\frac{1}{2}$ ounces of common salt, and 4 ounces of saltpetre) in a little more than 100 ounces of water, is very far from being a *homœopathic* mixture. It is allœopathic enough for the purpose to be accomplished by it. At least Mr. Neubert cautions me, in a letter dated Leipzig, March 6, 1864, against using it when the leaves are expanding or expanded—it injured or destroyed them. He advised me, therefore, to add more water, should I wish to use it, when the vine has commenced growing.

Viticola's view, first to try a compound, made according to the original recipe, especially when it emanates from a trustworthy source, before an attempt is made

to improve it, is good sound doctrine. Mr. Strong's frank declaration, shows that he means the *thing*, not the *person*. To meet such men does one's heart good. By their united efforts viticulture will gain.

SULPHUR AND THE ESSENTIAL OILS.

Messrs. EDITORS, Sulphur has long held the first place in the *materia medica* as a remedy for the various forms of *psora*; but there seems to be one disease in this class against which it is powerless—*Cacoethes scribendi*. I trust however that your readers will not deem me very seriously afflicted therewith if I venture a few remarks in response to the very pleasant note of Mr. Strong.

In my note in the September number, I stated that I regarded the solutions as weak; but, as they have been found efficient by Mr. Neubert, it occurred to me that we had better give them a fair trial. I find upon examination that the saline solution is sufficiently strong to leave a minute layer of crystals over any surface moistened with it; and, as for the essential oils, if the mere amount diffused in the air by the presence of articles perfumed with them, prevents mildew in neighboring bodies, the prescription may be strong enough. In dealing with specific poisons for certain classes of animals and vegetables, he would be a rash man who should affirm that a given amount is too small to effect the purpose required, unless he has experimentally proved the truth of his assertion. And, remember, all that I claim is that Mr. Neubert's recipe should have a fair trial.

I would also call Mr. Strong's attention to the fact that, against the mildew itself, Mr. Neubert uses *sulphur*; the salt and oils are applied early, so as to reach the undeveloped spores. It is obvious that if all the spores on the vine and trellis were destroyed before the vine made any growth, it would not be as liable to attack as if these seeds were left ready to germinate as soon as opportunity offers? M. Neubert's

advice was probably based upon the old maxim: "One year's seeding makes seven years weeding."

Mr. Strong's suggestion in regard to cedar posts may prove quite a valuable one.

The action of sulphur is not well understood. I believe, from certain experiments that I have made, that sulphur is a specific poison to certain classes of animals and vegetables. It seems to be a poison to many of the *acarida* and *fungi*, while to mammals, birds and most of the *phanerogamous* plants, it is quite the opposite. Under any circumstances, however, sulphur does not act by forming an acid—either the sulphuric or the sulphurous. I know that many writers on the grape make this statement; but no chemist would venture to make such an assertion. Dr. Grant, in his *Manual* (page 60), attempts to give an elaborate "theory of the sulphur remedy." But the Doctor, evidently, never studied chemistry, or he would not have stated that sulphur as ordinarily burned forms sulphuric acid. My chemical statements are based not only upon my own experiments, but upon the works of Gmelin, Braude, Taylor, Pelouze, Fremy, and others.

We know that sulphur volatilizes at ordinary temperatures, because it will blacken a silver plate placed over it in a sealed bottle, where the air is kept perfectly still; and we know that, at ordinary temperatures, it does not combine to form an acid, because we cannot detect the acid either by chemical analysis or by our senses; and if Mr. Strong will burn a little sulphur, and thus form sulphuric acid, he will find out experimentally that the odor of sulphurous acid is not only very easily detected, but that it is very different from the odor of sulphur vapor.

VITICOLA.

LETTER TO HUGH BLANK, ESQ.

MY DEAR HUGH.—Following up the subject of my last letter, I may as well say here, that even in this country, new as it is in culture and embellishment, and immeasurably behind the old ancestral land in all these aspects, there are favored mortals who possess gardens, and who have ample means, well-stored knowledge, and intelligent industry and devotion to rural pursuits. They can employ an adequate corps of skilled gardeners, who look up to them for direction and guidance, as the army looks up to its general. Such persons are horticultural lighthouses—men who diffuse, freely and generously, the genial light all around them. The gratification they derive from their pursuits, and from observing the progress of rural art in the country, much of which is the result of their own example, must be very great indeed. But this class is by no means large, though yearly increasing.

They need, of course, less than many other classes of country gentlemen, such information as is furnished by our horticultural and other publications relating to rural art, and yet, I venture to say, they are the most prompt and liberal supporters of these publications, buying them and reading them, with unflinching interest in the subjects of which they treat. They do not—nor do they wish to—monopolize the learning and the pleasures of horticulture. On the contrary, they are fountain-heads of patronage (I do not like that word *patronage* in such connexion, but I cannot now command a better); they are patterns of successful practice; centres of dissemination and distribution. Without them, and even in spite of them, horticulture would still flourish and grow, but by no means would its progress be what it now is. To name any single individuals, would be invidious to the rest of this select and advanced guard.

But there is a second class, who are much to be envied, and that because they

have what Dr. Watts, in his *Logic*, calls a “learned,” instead of a “vulgar idea,” of the hobby which they ride so pleasantly. Perhaps, indeed, there are few who derive so great an amount of enjoyment from their country pursuits as these *every-gentleman-his-own-gardener*. They are spared an immense number of known nuisances, and revel in a multitude of unknown delights. In the early spring, it is generally supposed that the garden can furnish nothing for kitchen or parlor—for cook or cook’s mistress. But our horticultural friend comes in with a charming bunch of violets, fragrant coltsfoot, daphne, &c., for the drawing-room table or console, and a quantity of the sweetest, greenest sprouts, and whitest, crispest sea-kale for the cook.

I wonder, dear, Hugh, if there is no sense of enjoyment—of satisfaction and pleasure, such as no money could buy on any street in New York—in such employments and experiences as these. For example—inserting, with your own hand, a simple bud on a little branch, and after a few years or months, gathering therefrom a heaping dish of choice fruit, or a great handful of beautiful flowers; of being able to say, “With the sun shining in this manner, I cannot go on reading and writing, shut up within these four walls, while the day is so bright and glorious without, and the birds are singing, and the flowers rejoicing in the blessed light—I, too, must out into the genial sunshine, and take my joy therein;” to be asked to dine with a wealthy neighbor, himself “fat and well-liking,” who has his forcing-houses, his hot and cold graperies, and his staff of gardeners, at nobody knows what wages, and to eat what he sets before you, and to send him better the next day—you keeping only the man, the boy, and *yourself*; to see the look of thankfulness in a neighbor’s eyes when, calling to inquire after his convalescent wife or his sick child, you produce some dainty from your garden which will

be relished and enjoyed. And these are only specimens of the luxuries of a sensible country life, and of discreet and intelligent gardening. Nor are they selfish enjoyments. No such thing, my boy. While you are doing all this for your own satisfaction and pleasure, you are, in many ways, conferring great benefits upon your neighbors, and enlarging the sphere of public improvement. Your experience and skill inure to the benefit of those whose experience and opportunities have been less than yours. Your example stimulates others, who observe that, with industry, information derived from horticultural publications, and with comparatively little extra expense, they can have the choicest fruits, and the most charming flowers, and the most beautiful and comfortable homes.

And this is not all. Your horticultural pursuits can hardly fail to react beneficially upon your main business pursuits. The habits of order and neatness, and promptitude and industry, which are indispensable

in your garden and greenhouse, must go with you, without doubt, into your more important daily industries — into your office, or counting-room, or factory.

You have already learned, dear Hugh, to appreciate the delights and refreshments of the quiet country home, when the day's work in the busy street is done, and you are at liberty to retire from its crowd and turmoil. With your garden, your love of the country will grow every year, doubtless, because you are likely to take pains to cultivate these rural tastes, and to inform your mind in these subjects and pursuits. Provide yourself with such books and current horticultural literature as may be within your reach. It is a miserable and mistaken idea of economy to attempt to starve your garden and your borders, because of the cost of the best fertilizers; or your mind, because works of taste and information require moderate expenditure.

I am, yours,

RALPH NOIRE.

SALT AS A REMEDY FOR PEAR BLIGHT.

In the November number, Reuben asks if salt is a preventive of mildew or blight on the pear. This is a very difficult question to answer, as I believe it is not yet fully determined what the pear blight is.

Reuben does not say whether his pears are standards or dwarfs on quince stocks. If the latter, then salt may act in one of three ways.

Firstly, as a general tonic for plants. In this case we would class salt with sulphate of iron, which we know to be an admirable tonic for pear trees and grape vines; being especially a specific on some soils for that want of vitality exhibited by the Delaware which causes it to shed its leaves prematurely. The same difficulty seems to exist, and in some cases to a greater extent, in the case of the Iona; and for that too it might be worth while to try a weak solution of sulphate of iron.

It has often occurred to me that we perhaps pay too little attention to the use of tonics for vegetables. We forget that our trees and vines do not grow in conditions entirely natural, and that if we force them unnaturally in one direction, we ought to supply them with artificial stimulants in another.

Secondly, as a specific for the quince stock upon which the pear is worked. It has long been known that salt is a *sine qua non* for healthy quince trees, even regardless of fruit; and we suspect that a light application of salt to the quince stocks of our dwarf pears would not be a useless expenditure of the article. There seem to be certain localities where pear trees on the quince thrive better than in others. Rochester, Syracuse, and the near vicinity of the Atlantic coast, seem to be favorable localities. Has the salt which is known to

abound in these places any thing to do with this success?

Thirdly, salt may act as a local specific for the disease in the leaf, just as sulphur

is a specific local remedy for some human diseases.

We throw out these suggestions merely as hints towards the solution of the question.

VITICOLA.

EDITOR'S TABLE.

TO CONTRIBUTORS AND OTHERS.—Address all Communications, for the Editorial and publishing departments, to GEO. E. & F. W. WOODWARD, 37 Park Row, New York.

MESSRS. EDITORS—Perhaps you and the readers of the *HORTICULTURIST* would like to peruse a few lines, giving the experience, impressions, and views of a "horticulturist," settled away down in the lower part of Delaware. If so, you shall have them forthwith. First for the experience. That is not very extensive, embracing only a year, but it may, nevertheless be somewhat instructive, if not particularly entertaining. I began last October, by planting out some strawberries, the variety, Downer's Prolific; the ground was pasture, containing a good deal, or I might say a bad deal, of the wild running blackberry—the dewberry of the North. By no means a suitable place, you will say, and rightly, but it was the best I could select. Unfortunately, the season was not as usual, showery, and the plants did not make a good growth. I also neglected to mulch them, an error that might not have had bad consequence, but for the unusually severe cold of the succeeding winter. In the spring, my plantation looked poorly enough, and it bore no fruit. In May of this year, I planted a quantity of the French's Seedling; they have by this time, completely covered the alternate spaces between the rows, with fine strong plants. Of their yield, positively and comparative, I may, if desired, tell you next summer. Finding that the necessary weeding of the Downer's patch would not pay, on account of the small number of plants remaining, I allowed them to take their

chance, preferring to take from them sufficient plants, in the summer, (August) for a new plantation. This new plantation I have made in a corn field, and I am pleased with the result. The ground, from the frequent stirring with the cultivator, was clean and mellow, and the broad blades of the corn sheltered the young plants, and, now that the corn is removed, they show well, very few having died. I did not confine myself to these two varieties, but planted from 1,000 to 2,500 of the "Agriculturist," Brooklyn Scarlet, New Jersey Scarlet, the (so-called) Buffalo, Byberry Seedling, &c., &c. So, I hope next season that I can report on their comparative merits, as they are growing side by side, and with similar treatment, some being allowed to run, others not.

The Philadelphia raspberry, of which some 2,500 roots were set, has grown with its usual vigor, though doing best in the soil of the low, heavy bottoms. The same can be said of the Wilson Early blackberry. In this connection, I might call attention to a fact, that goes far, I think, to show the relation the Wilson bears to the Dewberry, that is, the facility with which it can be propagated, by layering the tips. I spoiled a number of canes in my first experiments, and I trust some may benefit by the rules I will give for insuring success. First, the cane must be a principal one, a lateral will not root; next, it must be in vigorous growth, the wood at the base well

matured, but the tip succulent and growing rapidly. It must be buried (the tip) just to the right depth, two or two and a quarter inches, else it will rot, or if too shallow, shoot up without rooting. The ground must be mellow, and not allowed to get packed over or around the tip as buried, till well rooted. Observe these conditions, and you may get, as I have done, five good plants by winter, from the one root planted in the spring, and some of the roots of the larger will be as thick as the quill of a large duck, and over four feet long. So much for the Wilson's; as to the fruit, I can tell about that next year.

I may mention that the winter ('66) was very severe on the Belle de Fontenay raspberry, of which I had planted 6,000. I think that sufficient earth was not thrown on to the roots, as many failed to grow in the spring. A young peach orchard of 1000 trees was on the place when I purchased; this has been increased to 3000. The apple orchard, mostly of the earliest varieties, numbers 300 trees. The pear, standard, 100, and 300 on quince. These, with 175 early cherries complete the list, not omitting 100 Delaware and the same number of Adirondac vines. The Delawares have not taken kindly to the sandy soil, and even refused to add to their inches when stimulated in the summer with horse manure. The Adirondacs, on the contrary, have grown well, ripened their wood thoroughly, and have only just parted with their foliage, in obedience to the hint conveyed by a sharp frost on the night of the 5th of October. I allowed one bunch of grapes to mature on the strongest of the Adirondacs, after reducing the number of berries to five—and some friends from New York who were here when I gathered the bunch, and who were allowed one berry each, agreed that they were excellent. I did not taste, preferring to wait until another season.

Thus much for my own place. A neighbor has a young vineyard; when he planted his vines—now bearing several thousand, and of all the varieties of merit, except the

Adirondac—used a large quantity of bone meal. He obtained a great growth of wood, but his Ionas are nearly all killed, about the only ones that were, by the winter of ('66). His strawberries, being heavily covered with straw, withstood the winter well, but a late spring frost killed a large number of blossoms, and reduced his crop over one-third. Peaches in this section, were a great failure. Apple trees, being usually much neglected by the inhabitants, bore medium crops of worse than medium fruit. Of other fruits here, there are none to speak of. Though I remember buying some tolerable Isabella grapes, on the 8th of September, in the town, for eight cents per pound.

It is only within a very few years that attention has been paid to fruit raising here, and even now, it is not done by the natives, they go on in the old routine, growing wheat and corn, alongside of northern men, who make more from one or two acres, than they do from their whole farms. The soil here is a sandy loam, easily worked; we have one railroad, the Delaware, giving us the Philadelphia, Baltimore and New York markets, within eighteen hours by express, and another, the Junction and Breakwater, under way, which *via* steamers from Lewes, opposite Cape May, will bring us in still closer and cheaper connection with New York. Our latitude is exactly that of Washington, D. C., materially south of Vineland. In fact, excepting Norfolk, I believe the place to be the most southernly point where the small fruits are grown for the New York market, and to my mind, is quite far enough, sufficiently so to get the highest prices for early fruit, yet near enough to have it delivered in prime order, to have it compete with the Jersey growers. Northern men are rapidly taking up the available farms, and prices of land is rapidly augmenting. Already we have changed the majorities at the polls to the right side, and a bright, prosperous career seems to be in view for

MILFORD HUNDRED,
Kent Co., Delaware.

GRAFTS cut this month, before severe cold weather, and laid away in a cool cellar with, say one-half their length, the lower half, in clean sand, we consider more likely to succeed when wanted for use than if the cutting is left until some time in February, or after severe cold has to a certain extent reduced their vitality.

CARROTS, to keep well and not sprout, should have the crown cut completely off, and not the petioles of the leaves only. In this manner there is no loss of the saccharine matter, as in the case when the crown is left on, and sprouts are continually breaking forth.

BALTIMORE, NOV. 13, 1866.

MESSRS. WOODWARD:

Gentlemen,—A correspondent, in your November number, on growing grape seeds, concludes from some trials he made, that freezing the seeds is of "*vital importance*;" in fact, they "could not germinate unless the seeds were first frozen." As my experience differs from his, and as growing grape seedlings is now a mania, it may be well to have as much light on the subject as possible.

In the spring of 1865, I hybridized a number of native varieties with foreign pollen, and when the seeds were ripe, I put them in vials, labelled and laid away in a drawer. As the hybridizing cost me some time and trouble, I did not want to lose them; and as there was so much difference of opinion about the best way to grow them, I determined to divide them, planting half out-doors, the other half in my green house.

In November, I prepared the best piece of ground for the purpose in my garden, with a layer of sand on top, and planted the seeds in it in rows, marking each kind; covered them with a few leaves and twigs to prevent being washed by the rains. At the same time I put a like number of each variety in large seed pans filled with good soil, sprinkled over with sand, set them in the green-house, and watered when I

thought they needed it. In February, not showing signs of growth, a neighboring florist proposed I should give them bottom heat, on his hot water tank, which I did. In a few weeks they started, and when the weather was warm enough, set out of doors in the pans, where they grew all summer, being carefully watered in dry weather. About 75 per cent. came up; of the Delawares, nearly every seed germinated.

Of those planted out-doors, not more than 5 per cent. grew. If the Delawares did so at all, it must have been towards the antipodes; as not one made its appearance above ground; and they were examined often during the summer. There was certainly frost enough, as the thermometer was several degrees below zero, which is uncommon in this latitude; hence my experience is, that our grape seeds *will germinate without frost*; as those put in the green-house were not in a lower temperature than 40°.

That the cold, if not too severe, will not prevent our seeds from growing, is of course correct. I have vines which I grew from picked seeds, that were out of doors all the winter of 1862-63, but the thermometer with me was not at any time that winter lower than 12°, and it is probable that too hard a freezing injures the germ so as to destroy its vitality.

My conclusion from the above facts is, that *freezing is not indispensable*; but the best way to grow grape seedlings is in-doors with bottom heat, being careful not to over-water. The hybridized seedlings showed a wonderful variety in the same pan; some having the thick downy leaf of the native, others the peculiar lobed and thin leaf of its male-parent; while others again had peculiarities of their own. One could scarce credit they were grown from the same native seed.

I propose putting them in single pots, and growing them in the green-house next spring, so as to have the wood well matured before being exposed to the frost.

Yours, &c.,

WM. KING.

IN the Editor's table of the November number, you remark: "Do not attempt to group small growing shrubs or trees with those of lofty habit. A few years will show the error and the loss in effect of all trees so planted." You can, Messrs. Editors, do more than any one to prevent this difficulty.

Call upon all nurserymen to insert in their catalogues, the height, color and time of blooming of every shrub and plant; also, if naturally inhabiting dry or moist soil, and if a table of soil, similar to that in Buist's Flower Garden Directory, be added, it will furnish inexperienced persons with a guide which cannot be found in any of the works on gardening, and would probably increase to a great extent the sales of the nurserymen.

Such a catalogue can be arranged in columns, and in about the same space that the present issues require. I think the old catalogues of Bartram's Botanic Garden, at Philadelphia, were on this plan. It furnishes the best "writing for the poor," and the rich also.

BOSTON, Nov. 12, 1866.

WATERING TREES.—Strange as it may seem to the mind of the practised horticulturist, there are novices who are under the impression that a newly-transplanted tree requires to be watered from time to time, whether planted in spring or fall. As a rule, we believe watering trees at any time has resulted in more injury than good; but certainly no person should water a newly-planted tree, whether evergreen or deciduous, except during the growing season, and then only in dry hot weather, when not a wetting of the roots, but a perfect showering of the whole tree should be given.

GRAFTING may be safely performed this month, and indeed any time during winter, upon all hardy trees like the pear and apple. Be careful that the wax covering forms a perfect exclusion of air and moisture.

POMARIA, S. C., Nov. 8, 1866.

EDITORS HORTICULTURIST.—A long and serious illness has prevented me, until now, responding to the inquiries of "Reuben," on the Hebe Pear.

It is a new variety; a seedling grown from seed taken from my pear orchard; seeds of the Duchesse D'Angouleme and Easter Beurre having been sown. The product has been what we so much lacked in the South—a native winter Pear of first size and quality. The tree is in habit naturally pyramidal, and comes into bearing early. The fruit hanging until the last of October, when we have our first killing frosts, rendering it necessary to take them off. They ripen well in the house, and mature without shriveling. The large size, great beauty, thrifty growth, productiveness, and the superior quality of its fruit for table or market, renders it the "Eureka" of pears.

I am aware with what distrust new fruits should be received, and fully appreciate the responsibility of standing sponsor for novelties. In the case of the "Hebe," I challenge the world to produce a superior winter pear.

In the description which accompanied the engraving, in July number of the *HORTICULTURIST*, a slight mistake occurred, in saying, "free from thorns." In young trees, the growth is frequently thorny. This variety, growing equally well on quinces, retains its leaves in good health until frost, a good quality in all pears, and particularly necessary for success in the South.

WM. SUMMER.

If the weather continues open, all hardy deciduous trees may yet be planted. We prefer very late fall, or even mid-winter planting, so that the ground is not frozen, to that of the spring. Mulch all newly-planted trees, taking care that the litter that mice cannot form their nests, and in time of deep snows gather their living by eating the bark, and so destroying the tree.

KEEPING APPLES.—Fruit houses and special patents for keeping fruits have of late become the rage, and while we are disposed to favor every progress in the science of horticulture, either as connected with the growing or keeping of fruits, etc., yet we feel unwilling that any of our readers should be impressed with the idea that keeping apples for spring uses, is at all a matter requiring either the use of a fruit-house or any special patent. Records are daily made, and have been for years, of the success of keeping apples after being frozen solid, and hundreds of barrels are yearly buried in the earth and brought out in spring as fresh as so many potatoes. The one great feature connected with the preservation of a frozen apple is that it be kept in the dark until completely thawed out. And the successful feature of keeping apples in ordinary dry cellars, is to place them in bins, or boxes, of about one foot in depth, and cover them from all light, while at the same time there is kept up a free circulation of air in the apartment. Light and warmth serve to assist the natural process of maturation, while shade and a cool temperature retard it. Shade, again, in a confined atmosphere, as in the case of apples barrelled tight, often advances decay rather than retards it. This is known to every fruit dealer, and to most men who purchase their winter's fruit from the dealer. On opening a barrel of apples that have been headed up tight for a couple of weeks or more their appearance is fresh and good; but a few days exposure causes them to grow dull looking and of a light colored fruit to soon present the appearance of having been half baked. This is from the steam or warmth and moisture of the fruit. Had the barrel heads and some part of the side staves been bored so as to let off this moisture engendered from the warmth of the fruit so confined, the apples on opening would appear equally well, and with care in hands of the consumer could be kept a long time. It will be remembered, therefore, that to keep apples, it is not only re-

quisite to exclude the light, but that free circulation of air even if it be down to a freezing point, or even below, is also necessary.

A HINT.—It is one of the great sins of the present day, that fashion, rather than cultivated taste, rules in the arrangement of walks and plants in and around many of the costly and elegant architectural residences of our fortunate people. Long straight walks, with plants in ribbon arrangement, may be skilfully arranged in their placing; long meandering curves, with here and there a few herbaceous plants, intermingled with shrubs, but without defining the boundary of the walk, as for comfort or convenience; masses, and irregular plantings and groupings, or attempts thereat, of every new tree and shrub may be the fashion, but our fashionables will excuse us for once if we claim that there is too much monotony in the first; in the second, there is none of the grace and boldness of nature, with beauty of effect, obtained by masses of distinct varieties of shrubs outlined upon, and sweeping the walk, whose graceful curves are made only to avoid real or apparent obstacles, and leading to some special point, giving reason and beauty in utility. The last arrangement, that of the *new* trees, &c., we can only associate in idea with the botanist or amateur tree dealer, when we should look for grandeur and art from the combined powers of vigor in Nature and tasteful arrangement of man. We have hinted our hint.

STRAWBERRY BEDS, if not already mulched, should be attended to without delay.—Some cultivators argue that strawberry vines are better never to be mulched until after the ground becomes frozen, and that then the mulch should be applied, and so hold the vines in a more dormant condition than if the mulch is applied before frost. However correct this may be, in any event all strawberry vines *pay* for the labor of light mulching.

GRAPE SOILS.—Much has been said *pro* and *con* in the pages of the HORTICULTURIST, in that of other journals, and in the meetings of fruit growers, relative to the soils best adapted to profitable grape-growing. The subject has been, and continues to be, one of great interest, as a larger amount of capital is probably being invested in grape culture than in that of any other one crop connected with horticultural, and we might almost say, with agricultural pursuits. Each advocate of a particular soil or location, has his "good and sufficient" reasons for his preferment, and as each advances them, he too often considers his opponent as ultra and intractable. Good feeling and a conciliatory spirit should ever characterize the remarks of the horticulturist, for the scope of their pursuits is over the whole world, and unlike the politician no party purpose or office aggrandisement can be embraced as a motive of action. We have watched these advocates of clay soil, of loam or sand, and have no doubt all are sanguine of the truth of their advancements, and from our impression of their *stand point*, we do not doubt them. But the extent of climate and the varied condition of that climate also, within a radius of often not more than two to five miles; the impression of one that fruit for eating purposes is the thing sought; of another that wine only, and that of a particular kind, is the object; the experience of one with certain sorts of grapes, unknown, in practice, to another, are all points of reason for the apparent differences of opinion. As we have said, we have watched these disputations, and in collecting them bring about something like the following results:—1st. That the grape of some variety can be grown in almost any location or soil, and that too with satisfactory results in fruit returns. 2nd. That locations adjoining large bodies of water have the greatest certainty of success with all varieties. 3rd. That with the light colored grapes, as Catawba, Iona, &c., heavy clayey soil well underdrained, promise most valuable for produc-

tion of fruit for wine purposes. 4th. That with the black grapes the character of the soil is not so essential to give satisfactory results or quality for wine purposes. In this last item we may err in our deductions but it is the result of our opinion from our watchings of opinions, and from our years of examination of both grapes and wines in various parts of the States. No one, therefore, should be deterred from planting, but before investing too largely in the pursuit, it may be well to call the aid of some experienced person and get a knowledge of what is probably best for the locality and soil of the proposed vineyard.

ALL fruit trees should be carefully looked over at this season, for the purpose of destroying insects. Borers may have laid themselves up cozily, for winter quarters, in the bodies of the quince, apple, pear, mountain ash, or plum tree. A good, strong, and sharp knife, to cut away dead bark and wood, and a strong piece of wire are the requisite tools for the work, following it, if you please, by washing or coating the wound with some mixture of soft soap, sulphur, tobacco water, &c., or with a cheap shellac varnish. The eggs of caterpillars should be sought for on the small branches and in the forks of the tree.

The coccus, or scale insect, should be destroyed by washing the bodies and limbs of trees to which they have attached themselves. Strong lye water, or a mixture of soft soap and fresh-slacked lime will destroy them.

DRAINING.—The winter is often comparatively a leisure season. It may be profitably occupied in most cases in draining orchards or vineyards, gardens, &c. Make the ditches narrow, two and one-half to three feet deep, and use two-inch tile for the primary drains, and four to six-inch tile for the mains or outlets.

LEAVES, and a good heap of rich loamy soil, should be gathered this month, and placed under cover, for use in forming hotbeds early in spring.

BINDING.—Volumes of the *HORTICULTURIST* for 1866 can be had at this office, handsomely bound, in exchange for numbers in good order, on the payment of 75 cents.

THIS number closes the Twenty-first Annual volume of the *HORTICULTURIST*, and the terms of subscription of most of our patrons, all of whom, we hope, will remit early for the new volume. The year now closing has been the most prosperous one on our record; our subscription list large, and steadily increasing; and an advertising patronage exceeding our most liberal estimate.

The volume for 1867 will embrace many new features. We shall make a far more liberal use of illustrations, and increase its value wherever possible.

Our terms remain the same—Two Dollars and Fifty Cents per annum. Bound volumes, 1866, post-paid, and 1867, \$4.50; bound volumes, 1865 and 1866, post-paid, and 1857, \$6.

IN sending in subscriptions for the New Year, please order such books as are desired. Our catalogue of agricultural, horticultural, and architectural books is very complete, and embraces all the new publications for this year; our list of English works is also very full. In addition, we purchase and forward books on all subjects.

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Write but one letter; save your time, postages, and risks; order all the papers, periodicals and books you wish through us; send us a postal order for the amount, and we will execute the business faithfully and promptly, and at the best rates.

SOUTH PASS, ILL., Nov. 17, 1866.

Messrs. WOODWARD:

THE *ANNUAL OF ARCHITECTURE* received. I am much pleased with the *idea*, and the manner of its expression. It is just what the *people* need: Beautiful homes, and within the means of most lovers in the country. I earnestly hope, and have no doubt, that the sales of this number will justify the continuance of the series.

Very respectfully,

PARKER EARLE,

President Illinois State Horticultural Society.

AVOID giving drenching waterings to all house plants at this season, and remember to keep the temperature of the house low. A high temperature causes very rapid absorption of moisture, and a flacid unhealthy growth to the plant, enfeebling and unfitting it to give beauty of foliage or bloom.

IF you have not yet mulched around your newly-planted trees, do so at once. If possible, at this season, also, use fresh stable manure, as in its nature it imparts more warmth; and during the winter, more or less of its value becomes incorporated with the soil about the roots, and causes them to make an early and vigorous growth.

LOOK over beds of Japan lilies, hyacinths, tulips, &c., and see that no mice are preying on them. If any evidence of their appearance, place sticks, or strips of cloth, dipped in coal tar, in and around the bed.

SHOULD there come a warm, "soft spell of weather," say two weeks, or so, the mulch covering of bulb beds should be removed, but again returned *immediately* on approach of a change of temperature to cold.

